

COMMERCE

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SEPTEMBER, 1948

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Chicago Aerial Survey

Oil expansion: At Indiana Standard's huge Whiting Refinery a second 25,000-barrel-a-day catalytic cracker is now operating
IS ANOTHER FUEL CRISIS COMING? INDUSTRY FORECASTS SAY "NO"—See Page 13

SILENT
CHAIN

LONG
CENTER
DRIVE

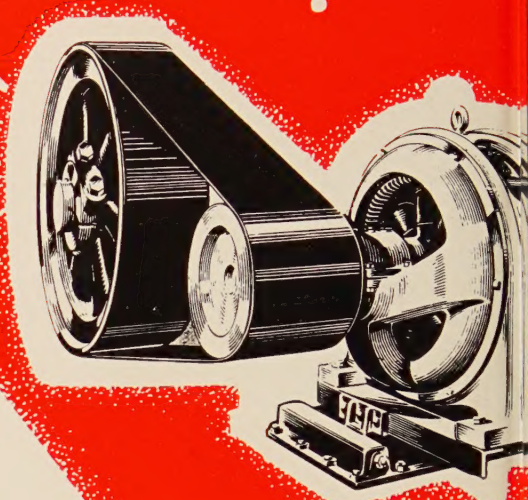
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Pick up your phone and call in one of our Transmission Engineers to explain this latest development in the transmission of power before you proceed with the selection of any other type drive.

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You will be surprised to learn of the simplicity and ease of application of this latest development of power transmission with automatic belt tension control — resulting in unequalled maximum efficiency — with lower maintenance cost — and with increased production capacity greater than any other previous type drive.

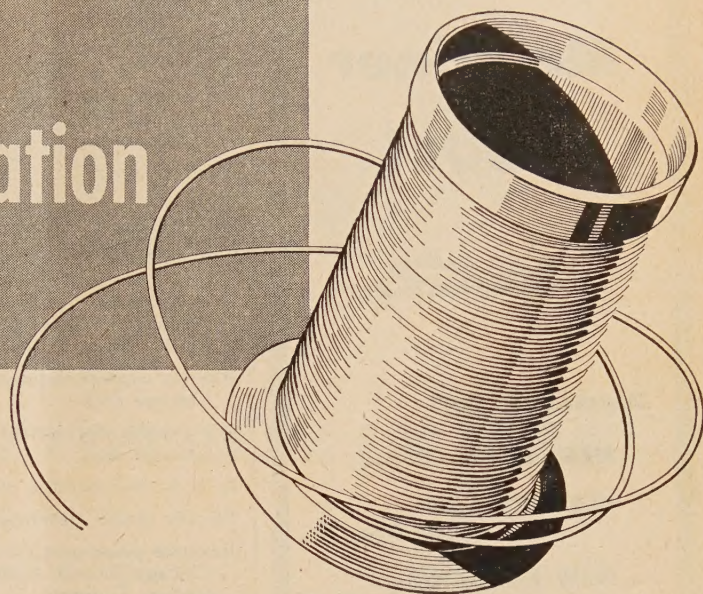
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CHICAGO BELTING COMPANY

MANUFACTURERS OF LEATHER BELTING AND LEATHER PACKINGS

GREEN & WASHINGTON STREETS, CHICAGO

One of the Greatest Blessings of our modern civilization



Virtually everywhere you look, you find evidence of the great services performed by steel wire. Automobiles, boats, airplanes, trolley cars, telephones, radio — all owe much of their development to wires of steel.

On the farm, steel wire fences protect growing crops. They control poultry and livestock. Nails, screws and bolts, which are made from steel wire are indispensable not only to the farmer but to all of us. And you can add to this list, steel wire rope of all kinds . . . wire fabric to reinforce our nation's concrete highways . . . steel wire of every conceivable size — from

piano wire to the great cables that support our giant suspension bridges.

A leader in the development of better steel wire and better products of wire is the American Steel & Wire Company — a member of the United States Steel family. This company not only turns out various types of high quality steel wire and wire products, but it is also constantly conducting research to discover and develop still better wire for hundreds of new uses.

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STATISTICS OF

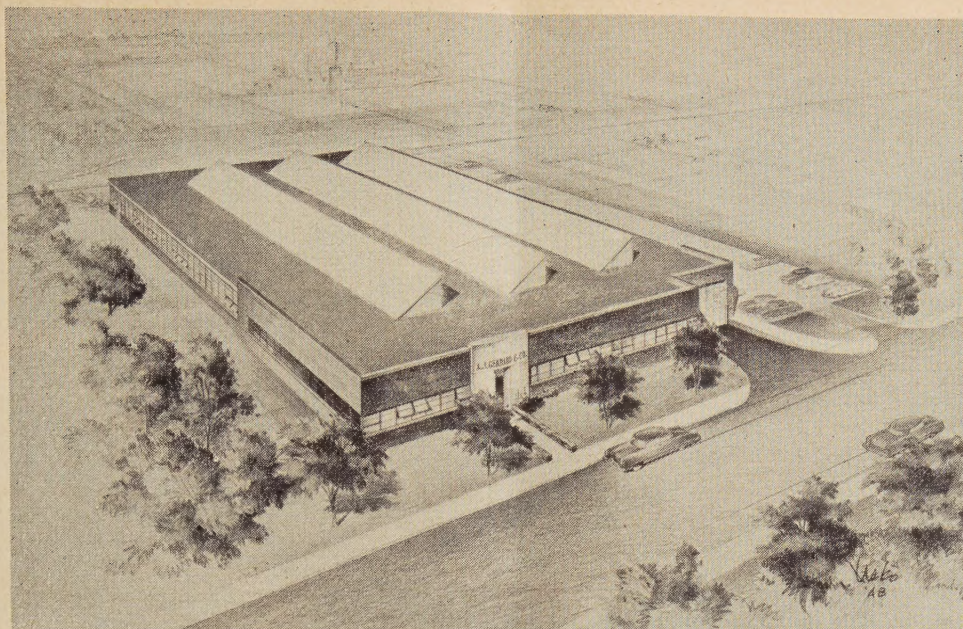
CHICAGO BUSINESS

	July, 1948	June, 1948	July, 1947
Building permits	612	892	
Cost	\$19,980,600	\$19,633,500	\$9,930,000
Contracts awarded on building projects, Cook Co.	955	1,069	
Cost	\$24,788,000	\$46,675,000	\$24,339,000
(F. W. Dodge Corp.)			
Real estate transfers	6,427	6,963	6,100
Consideration	\$7,791,061	\$6,879,687	\$7,511,000
Retailers' Occupation Tax collection, Cook Co.	\$8,223,612	\$7,688,411	\$7,353,000
Department store sales index (Federal Reserve Board) (Daily average 1935-39=100)	199.5	251.7	188.0
Bank clearings	\$3,251,867,553	\$3,355,758,897	\$3,022,015,000
Bank debits to individual accounts:			
7th Federal Reserve District	\$15,932,000,000	\$16,240,000,000	\$14,367,000,000
Chicago only	\$8,146,429,000	\$8,626,931,000	\$7,722,659,000
Chicago Stock Exchange transactions:			
Number of shares traded	578,000	758,000	673,000
Market value of shares traded	\$18,058,062	\$22,964,725	\$18,153,300
Railway express shipments, Chicago area	1,358,596	1,566,521	1,873,500
Air express shipments, Chicago area	48,857	55,496	47,000
L. C. L. merchandise cars	26,748	28,276	28,900
Electric power production, khw.	922,344,000	916,662,000	841,596,000
Revenue passengers carried by Chicago Transit Authority lines:			
Surface Division	64,727,211	69,372,346	71,760,800
Rapid Transit Division	13,630,353	14,498,664	14,351,300
Postal receipts	\$7,322,885	\$7,988,406	\$6,960,300
Air passengers:			
Arrivals	115,909	119,698	127,600
Departures	120,516	123,672	120,700
Consumers' Price Index (1935-39=100)	178.6	176.2	160.0
Live stock slaughtered under federal inspection	446,491	535,049	503,100
Families on relief rolls:			
Cook County	14,912	15,326	12,000
Other Illinois counties	12,448	12,694	12,400

1—Preliminary figures.

OCTOBER, 1948, TAX CALENDAR

Date Due	Tax	Returnable to
15	Illinois Retailers' Occupation Tax return and payment for month of September	Director of Revenue
31	Federal Old Age Benefit Tax for third quarter of 1948 return and payment. (Form SS-1A)	Collector of Internal Revenue
31	Illinois Unemployment Compensation contribution report and payment for third quarter of 1948 (UC-3 and UC-40)	Director, Department of Labor
31	Fourth quarterly installment on 1947 Federal Unemployment Compensation Tax	Collector of Internal Revenue
31	Employers who withheld more than \$100 during previous month pay amount withheld to (in which case depositary's receipt must accompany the return) or remittance may be made with quarterly return directly to	Authorized Depositary
31	Quarterly return and payment (by depositary receipts or cash) of taxes withheld by employers for third quarter of 1948 (Form W-1)	Collector of Internal Revenue
31	Federal Excise Tax return and payment due for September, 1948	Collector of Internal Revenue



Architect's sketch of latest Clearing plant, ready for construction to begin

A STREAMLINED PLANT FOR SALE OR LEASE...

It's an interesting fact that about half of the more than 100 plants built by the Clearing organization over the past 30 years have been for lease and about half have been built under a purchase contract to be paid for over a period of eight to ten years.

This is a choice which every manufacturer has when he locates in any Clearing-operated manufacturing district, of which there are four in the Chicago area.

It is very possible, too, that you can get a modern, streamlined, one-story plant—built to your specifications—at a cost no greater than you may be paying now for an unsuitable, uneconomical-operating

factory. And that new plant, located in a Clearing Development, means that your company home is in a controlled neighborhood that will stay modern and streamlined.

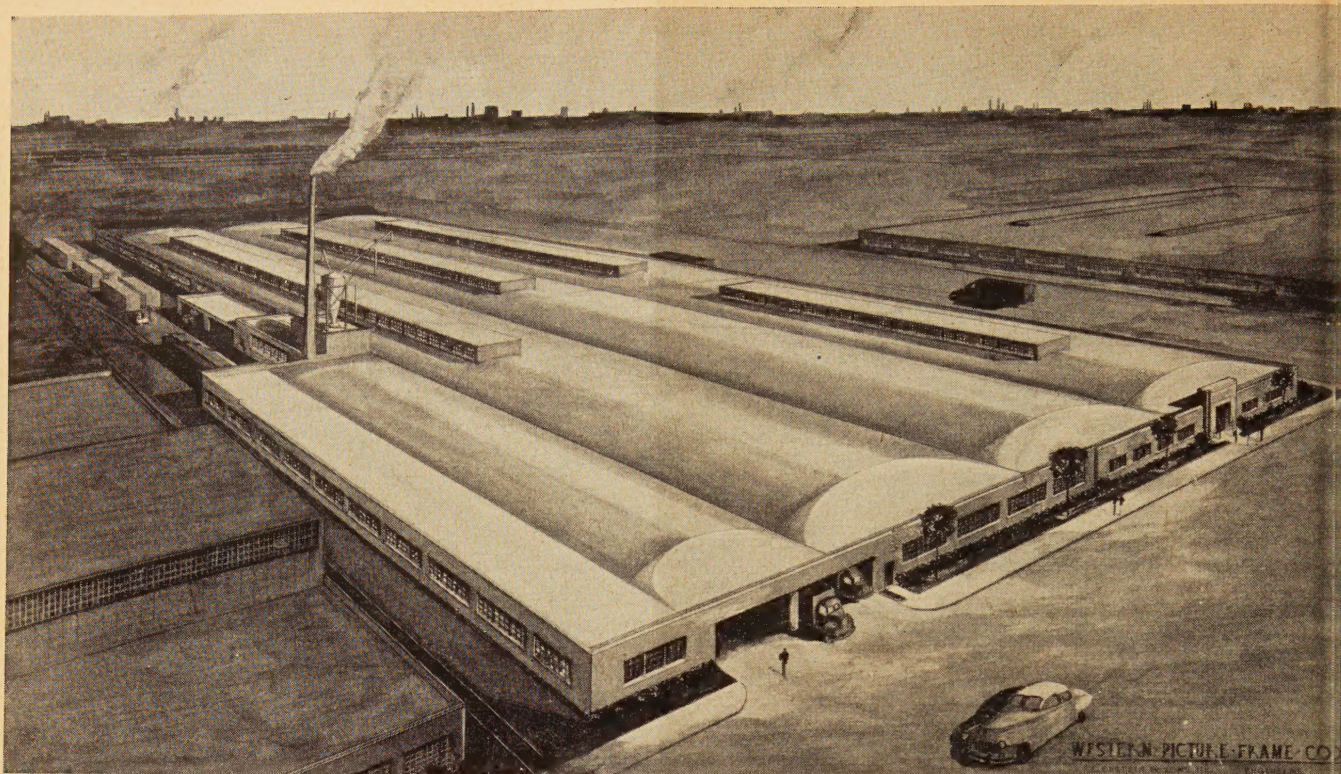
Clearing Industrial District Inc., has four modern industrial districts in the Chicago Area; one within Chicago's limits, two adjoining its southwest border and one adjoining its northwest border. The company offers the services of a complete engineering and construction department, architect and financing on either a purchase contract or long term lease; in short, every detail toward a completed project.

For further details address inquiries to "Clearing Industrial District, Inc., 38 South Dearborn Street, Chicago 3" or call Randolph 0135.

CLEARING INDUSTRIAL DISTRICT, Inc.

FIRST NATIONAL BANK BUILDING

CHICAGO 3



Artist's sketch of plant now under construction for the Western Picture Frame Company in the Crawford Development of the Central Manufacturing District.

A Modern Plant in a Modern District

INDUSTRIAL expansion is the order of the day. Like the Western Picture Frame Company, whose proposed facilities are illustrated, many concerns need enlarged modern quarters to accommodate present day demands for more goods and swifter delivery service. They likewise, are offered exceptional opportunity to expand under Chicago's most favorable conditions of location in the Crawford Development of the Central Manufacturing District.

HERE are to be found ample and reliable utilities, Chicago Junction Railway service—an inner belt that connects directly with every railroad in and out of Chicago—and various other valuable features possible only in an integrated community of industry. The Trustees, furthermore, are prepared to finance the acquisition of land and buildings under elastic terms of lease or contract of purchase arrangements.

FOR present requirements and future prospects in industrial plants to suit, therefore, consider the Crawford Development destined in the near future to be Chicago's finest community of industry. And for further details consult the:

Central Manufacturing District

ARTHUR G. LEONARD

FREDERICK HENRY PRINCE

W. WOOD PRINCE, Trustees

Richard Hackett, General Manager

1305 FIRST NATIONAL BANK BUILDING

RANDOLPH 2235

38 South Dearborn Street

CHICAGO 3, ILLINOIS

COMMERCE

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Alan Sturdy, Editor

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POSTMASTERS ATTENTION: Change of address cards on Form 3578 should be sent to 1 North LaSalle Street, Chicago 2, Illinois.

In This Issue--

Last Winter's fuel pinch is a memory that has been made all the more painful by predictions of a still worse crisis during the coming heating season. Whether industry and homeowners have adequate oil, coal and gas this Winter, depends, of course, upon many factors, but overall the fuel situation is encouraging. A detailed, factual report on the Winter supply outlook for the major fuels begins on page 13.

Most COMMERCE readers will recall Dr. Burleigh B. Gardner's penetrating article "New Tests Spot Executives—In Advance" (March, 1948). A new psychological study by Dr. Gardner, diagnosing character traits which lead to failure as an executive begins on page 22.

The ideal time to buy stocks is on the last day of a bear market; the best time to sell is on the last day of a bull market. Sadly enough, no one has yet devised a method for selecting those strategic dates in advance, but many investors are discovering that formula plans for investing provide a long-term antidote for stock market losses. Formula investing is described by Herbert Fredman, beginning on page 16.

In many industrial plants blind people, the lame and disabled, are performing unbelievably complicated tasks. They have attained this economic independence through a combination of personal initiative and the painstaking assistance of public rehabilitation agencies. Their story is told by Daniel F. Nicholson, beginning on page 15.

Industry is spending millions of dollars to educate workers, not only in profession and technical lines but in such diverse fields as political science and photography. It is an investment that pays extensive dividends in cordial employe relations as COMMERCE points out in an article (page 19).

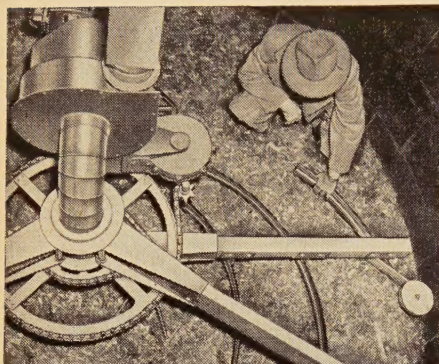
Early this year General Motors Corporation and the United Auto Workers signed a wage contract providing for automatic pay raises—and reductions—geared to fluctuations of the government's cost-of-living index. This revolutionary departure from established bargaining patterns left industry speculating. Stanley H. Brams reviews reactions to the unique wage idea in an article beginning on page 21.

Dean Garfield V. Cox of the University of Chicago forecasts "What's Ahead For Business," beginning on page 25.

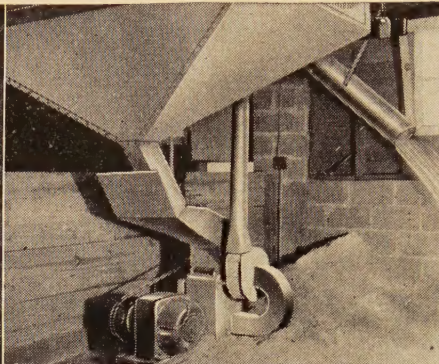
IT'S A "PUSH-BUTTON" FARM AGE IN NORTHERN ILLINOIS



With electricity available to 96 per cent of its farms, Northern Illinois is pioneering and developing many progressive farming methods. Close cooperation of our trained agricultural engineers with manufacturers, farm organizations and farmers themselves has resulted in numerous labor-saving innovations which are increasing production and making the farmer's job easier. Below are a few of these developments.



SILO UNLOADING is a snap with this automatic unloader which claws the silage loose, then blows it down to a feed cart below while the farmer is doing another chore. Saves five days of work a month on many farms!



FEED GRINDING AND MIXING for cattle, sheep and poultry is another "push-button" job. With grinder, mixer and well-placed chutes and bins, you just put in the right ingredients, and flick the switch . . . the job's done.



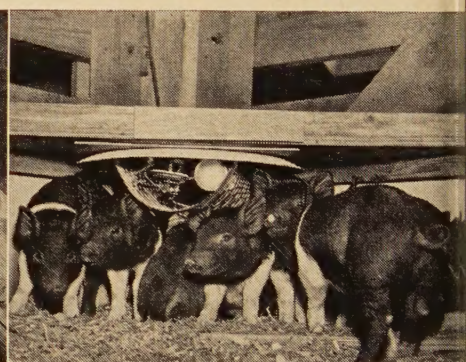
EGG PRODUCTION is up, with time-controlled lighting, water warmers, and poultry-house ventilators. These aids all contribute to increased egg volume in the fall and early winter when prices are highest.



WATER when and where needed, and in the right amounts, is provided by "push-button" irrigation. Overhead, open ditch, or lightweight on-the-ground pipe systems make truck gardeners independent of the weatherman.



HAY DRYING SYSTEMS permit speedy mowing away of leafy, green, high-moisture and vitamin content hay . . . the kind that produces more milk. It is efficiently dehydrated by air forced through ducts in the mow.



PORK PRODUCTION PROFITS begin at farrowing time! Electric pig-brooders help more pigs reach weaning age . . . help decrease the 33 1/3 per cent pig mortality rate, and send more pork to markets for sale and profit.

Forty per cent of America's farm output, in dollar value, is produced in—or within an overnight ride of—Northern Illinois. Chicago has become the hub of the world's greatest packing and food storage industry, as well as the largest single live animal market. Because the Middle West is the nation's granary, Chicago and Northern Illinois is a huge grain distributing center. As focal point for the nation's transportation network, the food wealth of the fertile upper Mississippi prairies and livestock from the western ranges flow into this area. Agriculture and industry are partners in Chicago and Northern Illinois.

This is one of a series of advertisements on the industrial, agricultural and residential characteristics of Chicago and Northern Illinois

TERRITORIAL INFORMATION DEPARTMENT

Marquette Building—140 South Dearborn Street, Chicago 3, Illinois—Phone RANdolph 1617

COMMONWEALTH EDISON COMPANY • PUBLIC SERVICE COMPANY OF NORTHERN ILLINOIS
WESTERN UNITED GAS AND ELECTRIC COMPANY • ILLINOIS NORTHERN UTILITIES COMPANY

The Editor's Page

One Year of T-H

JUST a little more than a year ago the Taft-Hartley Act went into full effect after having been enacted over a Presidential veto and the bitter opposition of organized labor. In the year since it became operative, opposition from both the President and organized labor has not diminished one wit.

But what does the record show? According to a study made by U. S. NEWS AND WORLD REPORT these are the highlights of labor's year under T.H. Membership in unions has increased somewhat, with independent unions showing some growth but most of the gains occurring in membership of the AFL and CIO. Strikes have dropped 43 per cent in number and 36 per cent fewer man-days have been lost. Union finances, although not public, are understood to have improved. Bargaining elections are being won by unions in as large a proportion of cases as before the law was passed. Under the rules set up to regulate union conduct 741 charges of unfair practice were made by employers against unions in the first 10 months of the law's existence. Unions filed 2,543 such cases. Injunctions, which came back under the law, were used in but 15 labor cases, excluding three in which the national health or safety was believed endangered. The opportunity for communists to operate within the labor movement was greatly circumscribed. Effects of the anti-closed shop provisions of the law are still indeterminate.

This record certainly does not justify the continuing loud wailings of the union leaders against the law and its authors. Nor is it likely that their unending exhortations will fool the coming Congress into weakening the act. It may fool some of the rank and file of union workers; but it is probable that even they will come increasingly to recognize their leaders' yowling as crying wolf.

The law, like all new laws, undoubtedly needs some change. Basically, however, it has proven sound, workable and a great improvement over the previous years when unions and their leaders enjoyed vast "rights" but no responsibilities under the Wagner Act.

Public Gains From Surplus

THERE is a general tendency to feel without to much thought, that there is nothing but loss so far as the public is concerned in the disposition of war surplus. The idea seems to be that some foreign nations and some businesses get a break in the form of fire sale prices for useable goods, plant or equipment and that's all there is to it.

The Chicago office of the War Assets Administration has compiled information that puts a different light on the subject. In the year ended June 30, 1948 approximately \$125,000,000 of war surplus personal property went to educational and non-profit institutions in the Chicago WAA region alone. This total went for nothing or at most a fraction of its original cost.

The University of Illinois obtained more than \$3,000,000 of the surplus not counting real property in the last

year. Other universities and small colleges, too, shared proportionately, getting property ranging from buildings, and complete equipment for laboratories and machine shops to cafeterias already to set up and operate. Beneficiaries were not limited to educational institutions. Boy Scout organizations got camp equipment, hospitals got an almost endless variety of goods. Even religious organizations with their specialized needs got surplus they could use.

Few will find fault with distribution of this sort for surplus, no matter how little money it brings to Uncle Sam.

Shadow Boxing

THE federal monetary authorities have taken some very gingerly steps toward combating inflation by tightening credit. The interest rate on one-year treasury borrowings has been increased from $1\frac{1}{8}$ to $1\frac{1}{4}$ per cent, the rediscount rate of the Federal Reserve Banks has been advanced from $1\frac{1}{4}$ to $1\frac{1}{2}$ per cent, and the way has been cleared to increase the reserves member banks of the reserve system are required to hold against their deposits. Installment credit terms to consumers, newly put back under government control, are to be made less lenient.

None of these changes strike at the heart of the easy credit problem and its very considerable contribution to inflation, however. The heart of the problem is the government's easy money policy, which was adopted to make the financing of federal deficits cheap and has been continued into the post-war period of surpluses in order to maintain government security prices at par or better. While this fundamental policy is unchanged, moves designed to check inflation through an overall tightening of credit conditions can be little more than shadow boxing unless they miscarry and go beyond the point desired.

Controls on various uses of credit, of which the renewed restrictions on installment borrowing are a good example, can, of course, be imposed if authorized by Congress. Unless every type of non-government borrowing is brought under such controls, however, the basic easy money policy will continue to encourage borrowing and therefore a credit inflated demand for goods.

Obviously, there is no present consistent purpose to extend such selective controls. Congress, at the very same session at which it re-authorized installment credit controls, acted to make housing credit easier. Why our solons thought it advisable to boost demand via easier credit for the already overtaxed construction industry, while at the same time curbing credit demand for such goods as autos and refrigerators is a mystery.

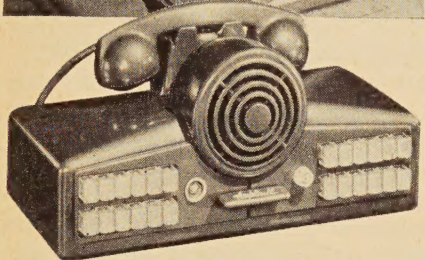
Through all of these credit moves the fact remains that the treasury is still committed to support its own debt at par, and to maintain a $2\frac{1}{2}$ per cent rate on its long-term bonds. The treasury and Federal Reserve Board cannot do this and at the same time operate to tighten other credit materially, unless they are prepared to buy back an important part of the presently out-federal debt. So governments stay at par, the dollar goes farther and farther below 100 cents in buying power and everyone, including the bondholder that presumably is being protected, is hurt.

Alan Sturdy

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Intercommunication to Make Every Working Minute Count



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HERE-THERE and EVERYWHERE

• **Fire Safety Innovation**—A Cincinnati department store has just installed a five-floor, open escalator system which is believed to be one of the safest installations, from the viewpoint of fire protection, in the country. The fire hazard of open escalators has been minimized through the use of controlled air provided by an air conditioning system. The new protection idea, which was worked out by Carrier Corporation, combines negative air pressures to isolate any fire that breaks out, a suction air to remove smoke and exhaust it outside the building, and a water curtain around each escalator opening to prevent flames from spreading. Engineers who devised the system say it has proved so successful that several cities have revised safety codes to allow open escalators if similar protection is provided.

• **Booming Milwaukee** — Chicago's Federal Reserve Bank recently dispatched a team of statistical experts to catch up on the postwar economic expansion of Milwaukee, a city that has received a heavy influx of new industries since V-J Day. Their findings, published in the August issue of the bank's "Business Conditions," place the city's current employment at 365,000, a rise of 60 per cent over 1939. The city's annual personal income, meanwhile, has increased to approximately \$1,800,000,000.

• **Basis Of Building Costs**—Of the 36 major categories of unionized building tradesmen, two classes now outrank all the rest in wages. The Building Construction Employers Association of Chicago notes that in this area top wages are paid to glaziers and tuck pointers. They make \$2.45 an hour. Next highest-paid in the building trades are boiler makers, bricklayers, structural iron workers, lathers, plasterers and roofers at \$2.40. At the bottom end of the scale is a single category, wrecking laborers, who currently earn \$1.40 an hour.

• **Animated Molecules** — More and more the movies are training workers, explaining complex industrial processes, telling people generally what industry is doing for them. Now the

Standard Oil Company of Indiana has come up with a 22-minute color motion picture that explains the intricate story of gasoline-making through the medium of animated characters representing petroleum molecules. Ten thousand individual drawings were required to bring the lively molecules to the screen; they introduce themselves, explain their characteristics and what happens to them in today's catalytic crackers. Distinctive colors denote gas, gasoline, kerosene, fuel oil, and other crude oil components; they flow through the refinery. The film will be shown throughout 10 Midwestern states.

• **Government Sales Aid**—The Department of Commerce has just published a new guide for businessmen interested in selling machinery to the federal government. The eight-page pamphlet covers two categories: (1) standard stock items as carried in manufacturers' catalogs, and (2) special machinery built singly to specification. Entitled "Selling Machinery To the Government," the pamphlet is free on request to the Department of Commerce Field Office, 332 S. Michigan Ave., Chicago 4, Illinois.

• **On The Tin Can Front**—Current innovations in food packed in tin cans, as noted by the Can Manufacturers Institute, include: (1) cooked beef tongue hash for frying or baking; (2) enchilada dinners in a three-can kit; one contains tortillas or flour Mexican corn cakes, the second enchilada sauce, the third pinto beans; (3) canned flaked freshwater carp from Minnesota; (4) tomato aspic that may be sliced cold from the can, now being test-marketed in six cities; and (5) genuine snapper turtle soup, packaged on a small scale before 1941 then abandoned during the war, is now back on the market and going strong.

• **Gas Range Sales Up**—Gas range sales reached an all-time high of 1,172,000 during the first five months of 1948, the Gas Appliance Manufacturers Association reports, noting that this year's sales volume was 24 per cent above the same 1947 period.

(Continued on page 45)

Attention!

**Commercial and Industrial
Fuel Users**

**OUR GUARANTEED
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OFFERS YOU THE OPPORTUNITY
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IRON FIREMAN

OUT OF THE MONEY YOU WILL
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STOKER COAL IS CHEAPER
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**This money comprises
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THE PRUDENTIAL
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Trends in FINANCE and BUSINESS

Postwar Plant Expansion Seen Easing In '49

Industry is near the peak of its postwar plant expansion drive and capital expenditures next year are likely to begin a gentle downslide. This is the forecast of the National Industrial Conference Board, which has found in a survey of major industries that most companies anticipate smaller capital outlays in 1949. A minority of companies expect 1949 expenditures to approximate those of this year, however, and a few, at least, are planning increased plant expansion. Net, the trend is down.

The biggest factor in the expected decline is, of course, the steadily higher cost of industrial construction. As the board notes, a structure which cost \$3.20 per square foot to build before the war now costs about \$15.20 a square foot. Furthermore, many companies are bringing previously planned postwar improvement programs to completion. Generally higher operating costs have also led many to suspend further expansion.

About three-fourths of the companies surveyed said the bulk of their current capital requirements are being furnished by retained earnings. Even so, these companies are still having to resort to other means of financing, for most reported that earnings are providing no more than 50 to 75 per cent of total capital needs. For example, petroleum companies, though in a strong earning position since the war, reported that profits provided one-third their capital needs.

« « » »

"Big Business" Lags In Nation's Dollar Growth

"The rich get richer, the poor get poorer"; "Big Business gets bigger and Small Business gets smaller" are hackneyed phrases that are still bandied about. Actually, the opposite comes closer to the truth as the Institute of Life Insurance points out in a review of the nation's recent economic growth. If all segments of the economy are considered, "Big Business" has relatively grown least of all.

Government statistics reveal that

between 1939 and 1946, the total assets of the nation's 200 largest manufacturing corporations increased over-all by 41 per cent and their net profits after taxes by 61 per cent. In the same period, the assets of 800 lower-bracket corporations, selected as a cross-section of industry generally, increased by 96 per cent and their net profits by 150 per cent. Hence, the latter have grown considerably faster than the biggest corporations: more than twice as fast in both assets and net profits.

In personal and noncorporate fields the biggest single gain in the economy has been in agriculture. Farm income rose from \$4,500,000,000 in 1939 to \$15,200,000,000 in 1946, an increase of 238 per cent. Professional and unincorporated business income in 1939 was \$6,800,000,000; by 1946 it had climbed to \$19,700,000,000, a rise of 190 per cent. As for personal earnings, they are classified by the government under "Total compensation for employees" and this category increased from \$47,800,000,000 to \$116,800,000,000, or 144 per cent during the same eight-year period.

As the institute points out, "The biggest corporations, whatever their own increase in size, have anything but monopolized the growth of the economy in the last few years nor have they affected the progress of small or medium business. In general, economic opportunity still exists to as great a degree and to as wide an extent as ever before."

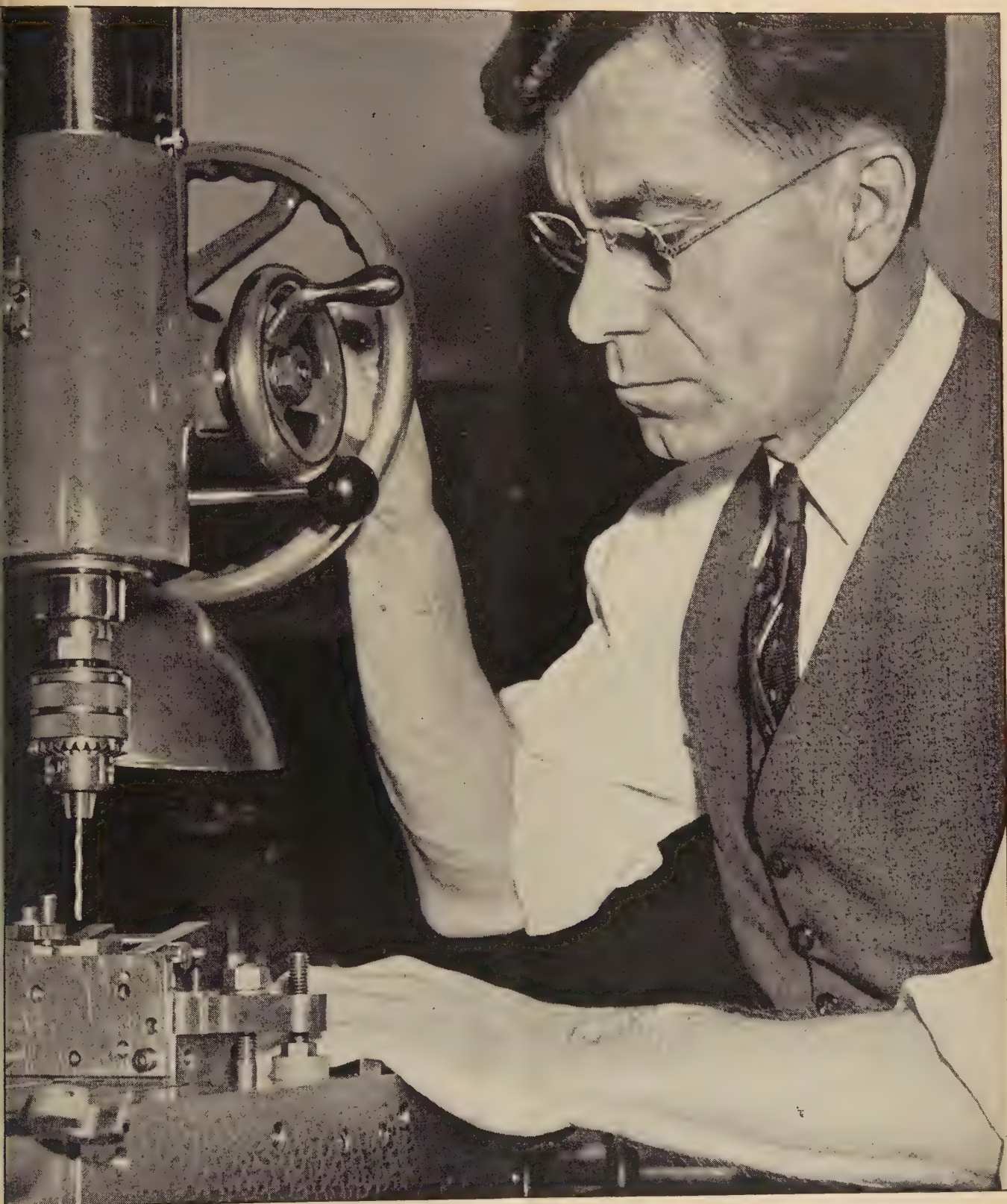
« « » »

Atomic Energy For Industry Still In Future

Physicists are making rapid strides toward harnessing atomic energy to useful, industrial purposes, but none are yet prepared to say how soon nuclear fuel will become a practical reality. The latest forecast comes from Dr. C. G. Suits, research director for General Electric Company and supervisor of GE's Knolls Atomic Power Laboratory at Schenectady, N. Y.

Dr. Suits believes that electrical
(Continued on page 42)

• PERSONALITIES •



GARAND . . . the man behind the gun

The standard U. S. Army rifle is the invention of a civilian who is a naturalized American citizen. Quebec-born John C. Garand, chief ordnance engineer of the Springfield Armory, tripled the firing power of U. S. infantrymen when his handiwork was formally adopted by the

Army in 1936. The famous rifle climaxes an inventive career that opened when Garand was a 12-year-old employee of a Connecticut textile mill. He developed a machine that eliminated a hand operation. For this, his pay was upped to \$9 a week and he invested the increase in

an I. C. S. engineering course. "From I. C. S.," Mr. Garand says, "I procured the engineering and mathematical knowledge which played a vital part in the development of the Garand rifle." **Sources:** Mr. Garand; files of the International Correspondence Schools, Scranton 9, Pa.



High summertime coal production has given U. S. largest bituminous inventory in over two years *Bituminous Coal Institute*

Record Fuel Output Points Toward Better Supply Next Winter

Is Another Fuel Crisis Coming?

Industry Forecasts Say "No"

By

LEWIS A. RILEY

FOR residents of what has been labelled the "Temperate Zone," September opens the season of anxiety over the Winter fuel outlook. Apprehension has been intensified first by the recollection of last year's oil, coal, and natural gas squeeze, second and perhaps even more by predictions of an even worse heating crisis to come. With the most frightening forecasts of all coming directly from the President, many a homeowner has been left believing he will be frozen and/or impoverished by Christmas.

What are the facts?

Industry surveys of the market outlook for the major fuels—oil, coal and gas—now point unmistakably toward an improved supply-demand balance this Winter. This does not necessarily mean that localized spot shortages will not develop, nor that all grades of light fuel oil and high-grade coal will be in ample supply in all localities at all times. It does mean that, over all, the fuel picture is brighter than last year and is almost certain to become steadily better throughout 1949.

Complicating Factors Seen

The complicating factors in the over-all outlook are a series of possible, though unlikely, contingencies that could upset the fuel industry's current calculations. An abrupt deterioration in relations with Russia would obviously impel the military to raise their already heavy demands upon the petroleum industry. War, of course, would produce critical scarcities. A coal or railroad strike, or a disaster of Texas City proportions could also arrest steadily rising fuel production. Furthermore, a prolonged and severe Winter could again send demand vaulting above anticipated levels.

Lending optimism to current forecasts is the fact that, while fuel demand has risen to record levels, supply in most cases has been moving up even faster. The petroleum in-

dustry is operating at near capacity (in some areas, actually above rated capacity) and has increased reserve stocks to the highest level in many months. Coal reserves are greater than at any time since April, 1946. With the addition of new pipelines, the flow of natural gas to most parts of the country has swelled during the last six months. Thus, although the fuel market remains delicately balanced, suppliers have acquired a somewhat more comfortable cushion of excess supply and the possibility of critical scarcities has diminished.

Oil Industry Optimistic

In the oil industry there is a definite undertone of optimism. The prevailing attitude of industry economists is that petroleum is probably over its worst postwar hump, that—barring serious trouble—supplies will be adequate this Winter in most areas and progressively more ample during the next several years. The industry is still operating upon a narrow margin of supply over demand, however, and sentiment is hard against an outright tone of optimism lest consumers assume that the crisis is past and abandon caution in their use of oil.

A recent industry survey indicates that domestic petroleum supply will average out at about 6,000,000 barrels a day between April 1, 1948, and March 31, 1949, an increase of eight per cent over the same 1947-48 period. This estimate is perhaps conservative, for thus far in 1948 petroleum output has actually averaged nearer 10 per cent above last year. The industry is currently refining about 5,600,000 barrels of crude oil daily, or somewhat over 11 per cent more than at the same time a year ago and almost half again the daily average during the record pre-war year of 1941.

Meanwhile, authoritative demand forecasts place domestic consumption at slightly over 5,900,000 barrels a day. One group of oil industry economists, has figured domestic demand

at 5,907,000 barrels daily. The Bureau of Mines calculates daily demand at 5,935,000 barrels, up 8.9 per cent from 1947. The federal agency figures the biggest increase will be a 19.3 per cent rise in distillate fuel oil demand this year; it expects gasoline demand to rise 9.9 per cent, kerosene demand 14.2 per cent, and residual fuel oil demand two per cent. During the first six months of 1947, the demand for petroleum products actually rose about 8.7 per cent, indicating that these estimates have forecast demand behavior with considerable accuracy.

The over-all industry forecast, therefore, is that 1948 petroleum supplies, including imports, will approximate 2,350,800,000 barrels and total demand, including exports, about 2,316,000,000 barrels, providing a supply margin of 1.5 per cent. The chief significance of this margin lies in the fact that output this year has been growing faster than expected demand. It has already enabled the industry to restore partially the abnormally low inventories with which it emerged from last Winter. During the last week of July alone, crude petroleum inventories increased by almost 2,000,000 barrels.

Supply Margin Improved

While a supply margin of one and a half percentage points can hardly be regarded as safe in an industry that may confront violent demand fluctuations, it is a decidedly better margin than petroleum has enjoyed for several years. Furthermore, it reflects the successful progress—despite constant steel shortages—of the industry's gigantic postwar expansion program. Last year, the industry is estimated to have spent roughly \$2,250,000,000 (or almost one-seventh of the nation's total non-farm business expenditures for new plant and equipment) for new production, refining, transportation, and marketing facilities. This year's capital outlay



Picturesque spherical storage tank for liquefied petroleum gas

is expected to exceed even the huge 1947 figure by a sizeable margin.

There are several additional factors which point to a less critical petroleum supply situation next Winter. Despite predictions of a gasoline famine during the Summer months of heavy motor travelling, gasoline has remained in fairly ample supply. In some localities, in fact, it has exceeded demand by a considerable margin, with the result that refiners may thus be able to push forward their seasonal shift from gasoline to fuel oil. Normal practice is to take a larger refinery cut of distillate fuel oil from the crude barrel and less of gasoline as soon as gasoline demand slackens in early Fall. An earlier shift this Fall would, of course, tend to bolster fuel oil supplies during the early Winter months and place the industry on a better supply footing for the remainder of the heating season.

In addition, petroleum imports have been stepped up sharply while exports have been limited. As a result, in the first half of 1948 the United States became a net importer of petroleum for the first time since 1922.

Last Winter's fuel scare has already slackened the enthusiasm for residential oil burners among homeowners and this is also likely to benefit present petroleum users. Installations last year, largely of the "conversion" burner type, reached a new record, four times higher than in 1941. Domestic oil burners were estimated at 3,711,791 on March 1, 1948, an increase of 31.6 per cent over December, 1946. This year the market for domestic burners has contracted very sharply. Shipments during the first quarter of 1948 were less than a third of their first-quarter 1947 rate, and

unfilled orders in the hands of producers at the end of the quarter were one-tenth their size a year earlier.

Thus, in the aggregate, the petroleum industry believes it is now capable of supplying probable Winter demands throughout the country. The areas of ample supply will continue to be the producing regions of the West and Gulf coasts. The East Coast supply outlook has been brightened by the addition of new super-tankers. Last year transportation was a major bottleneck hampering oil movements to the East. Now, however, petroleum inventories are higher than a year ago, crude runs to refiners are also up, and with more tankers available the Atlantic states are not likely to suffer more than localized spot shortages.

Mid-West Supplies Up

In the Middle West, which was once the industry's problem area, the petroleum supply situation has improved. The area is expected to require about 1,800,000 barrels daily throughout 1948, of which it will produce slightly over 1,000,000 barrels a day locally and import the remaining 800,000 barrels from other areas. This year, pipe line capacity from the Southwest to the Middle West has increased sufficiently to indicate that Winter oil flow to the area will be distinctly better. Nevertheless, the area must still depend heavily upon tank cars for sufficient crude oil to keep its refineries operating at expanded capacity. Until further pipe line capacity becomes available in 1949, expectations are that supplies of certain petroleum products will continue tight (though not as critically scarce as last year) in some areas at the peak of the Winter season.

Like petroleum, the coal industry has made substantial strides toward

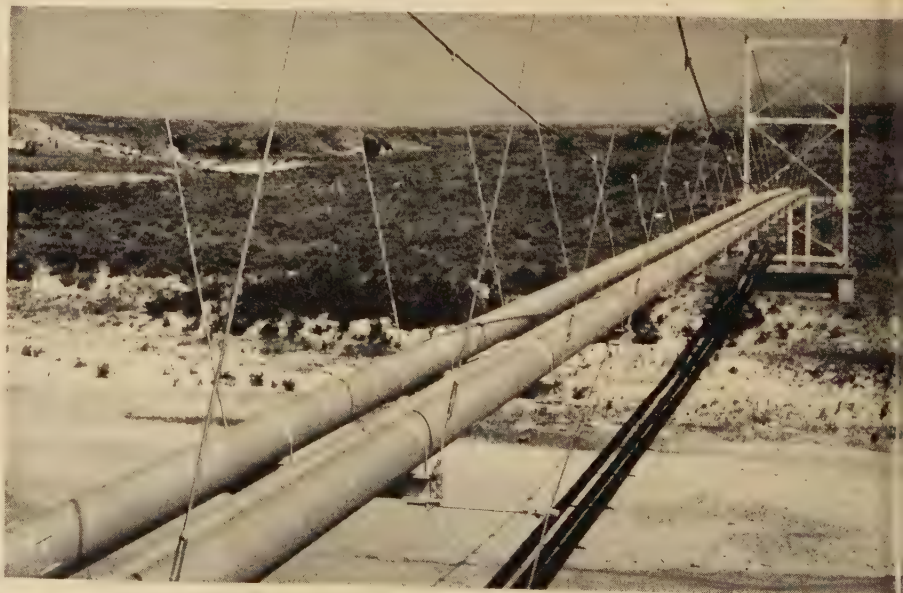
avoiding a supply squeeze during next Winter's peak demand months. Despite the miners' strike last April, coal production through August 1 was less than 23,000,000 tons behind the corresponding seven months of 1947, a year in which coal production reached a record high. Output during the past Summer, running at upwards of 12,000,000 tons a week, has consistently exceeded the record 1947 level. Production during the latter half of July, for example, averaged five per cent higher. Furthermore, the availability of railroad cars has improved during the year, indicating that the worst effects of this bottleneck, which seriously curtailed coal movements in 1947, have now passed.

Thus, the coal industry generally anticipates a considerably better supply situation during the next six months. Coal stocks on July 1, 1948, were at the highest point in over two years. On that date, they amounted to a 45-day supply of 58,000,000 tons or about 8,000,000 tons more than on July 1, 1947. Indicative of the industry's attitude is its blunt reply to threats of price, rationing, and allocation control: "There is plenty of coal to take care of all the requirements of this country, plus export demands."

The coal industry, of course, confronts the persistent threat of work stoppages. But the mine workers and their unpredictable leader appear to have been mollified, at least for the time being, and indications are that the industry will experience a minimum of labor trouble during the Fall and Winter months.

Despite the over-all improvement in coal supply, scattered shortages of some types of high grade coal—especially prepared sizes like doubled

(Continued on page 32)



New pipeline from Texas to Chicago area has increased flow of natural gas

Making Workers Of The Handicapped

By DANIEL F. NICHOLSON

FRED Blake got a job a couple of months ago—the first in his life—although Fred is 27. Since he was 2, he had been confined to a wheel chair with a spinal injury that prevented him from holding anything like a steady job. Today, Fred has a job that gives him independence because he applied to the Illinois Division of Vocational Rehabilitation for help. That agency considered his abilities and natural inclinations, and decided to teach him photographic retouching. Now, Fred, who learned last, is an expert earning more than \$3,500 a year.

Fred Blake is just one of 956 disabled persons who were "rehabilitated," placed in jobs or enabled to start their own businesses in the Chicago area during the year ended with last June. Their handicaps were of almost every conceivable sort. Some were blind, others deaf, some needed artificial limbs or special shoes, some were epileptics, some were survivors of heart attacks or tuberculosis who required new occupations suitable for their condition, and many had mental troubles that prevented them from holding any job. All had this in common, however—the ability to perform some useful work after treatment or training, or both.

Treated As Individuals

Each handicapped person who asked for help was treated as an individual case. An 18-year-old girl with deformed feet was provided with expensive orthopedic shoes and trained in dress designing. Today she is a dress designer, earning \$65 a week. Others were provided a variety of appliances—artificial arms or legs, hearing aids, trusses, braces—or surgery, dental care, hospitalization, and psychotherapeutic treatments.

Sometimes these treatments alone enabled individuals to become self-supporting. There was the 45-year-old woman, for example, who resigned a responsible position because of emotional difficulties. She was supporting

two elderly parents and a blind brother, a burden which, with the tensions of her job, was proving overwhelming. Her ability to work declined and her earnings dropped by two-thirds. After a series of psychotherapeutic treatments lasting six months the woman was returned to her old work. Today, her emotional difficulties are gone, she can perform her job well and still carry her family responsibilities without anxiety.

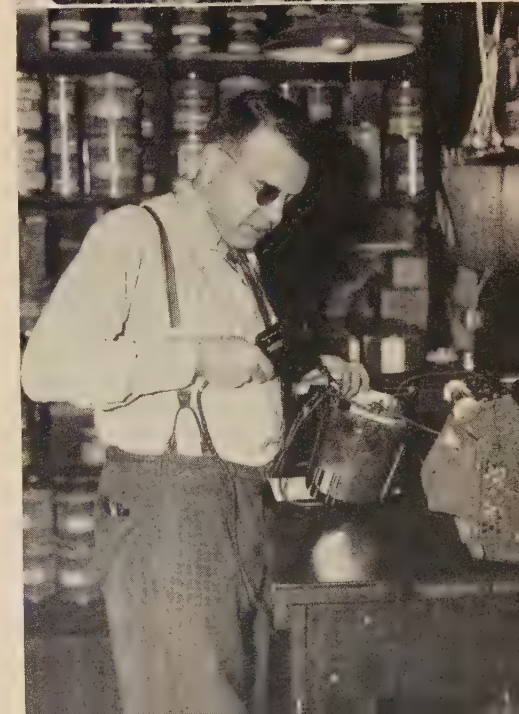
There is no socialized medicine involved in these humanitarian activities. Persons who are acutely ill, chronically ill or too old to work, are not eligible for rehabilitation; to be eligible one must have a reasonably good chance for becoming employable or getting a better job.

Tax-eater To Taxpayer

If a handicapped person does meet these requirements, the Division of Vocational Rehabilitation will go to extraordinary lengths to make him an independent, self-reliant and self-supporting individual—a taxpayer rather than a tax-eater. If feasible, he will be given medical, surgical or other treatment to reduce the handicap, followed by vocational training that is within his physical capabilities. Youths have been sent through college or professional schools. A practicing dentist who teaches dentistry was handicapped by a partially paralyzed left side, before the division came to his aid and helped him through dental school. A young girl who lost the use of both legs because of polio was given braces and taught to walk. Not long ago she graduated from college, and now she is a teacher of student nurses at the Dixon, Ill., Public Hospital. Sometimes the rehabilitated are provided occupa-

(Continued on page 28)

With dogged determination, these skilled craftsmen have defeated a common handicap—blindness. (Top) Packaging stationery and operating instructions. (Center) Operating a mechanical shaper. (Below) Radio repairman at work.



Timing Security



Trading floor N. Y. Stock Exchange

WHEN is the right time to buy stocks?

The answer, obviously, is "On the last day of a bear market." And the correct date on which to sell the stocks that have been accumulated is equally easy to arrive at. It is on the last day of a bull market.

Unfortunately, very few investors — including those professional money managers who handle the vast funds of institutions and trusts — achieve perfect timing in their security transactions. They are faced with an almost insuperable barrier — their emotions. On the last day of a bull market, almost every investor is certain the prices are going to advance to much higher levels. And, on the last day of a bear market, the consensus is that prices will go much lower before they go higher.

Over the years many methods to insure accurate timing of security transactions have been advocated. They range from the use of ouija boards and the study of sunspots to the compilation of detailed charts of market movements and attempts to correlate security price trends with

those of other indexes or indicators. Sadly enough, most of these methods have shown decided shortcomings. The plain fact remains that by far the majority of non-professional investors buy securities at comparatively high levels, when they should be sold; and sell at distressingly low levels, when buying is in order.

Recently a number of mechanical methods for the timing of security transactions have been under investigation, chiefly by the managers of sizeable investment funds. As a group, these devices are known as formula plans. Variations of these plans have been in use for at least ten years, and each year many additional portfolios are brought under the semi-automatic control of an investment formula. Today, informed observers estimate that funds aggregating roughly \$1,000,000,000 in value are under formula plan management.

To the average investor, there are two important facts to realize about formula plans. The first is that, up to now at least, the formula plans used by trust funds and institutions have yielded far better results than the forecasting methods formerly employed. And that means that the results are infinitely superior to those

attained by the average investor, who operates on the basis of hunches, tips, and swaying emotion. The other fact is that a formula plan will work just as well on a small as on a large portfolio. The man with investments totalling \$5,000 or \$10,000 can use a formula just as well as Yale University, which has endowment funds of approximately \$85,000,000 under a formula plan instituted ten years ago.

The elder J. P. Morgan was once asked his opinion of the stock market. He was reported to have replied that it would continue to fluctuate. Buried in this apparently flip reply is the basis of formula planning. After removing all of the mathematical trapings that complicate formula plans and disregarding the many variations between plans, the formula method is designed to take advantage of the fact that markets will continue to fluctuate. Assuming that prices will not be stable, the formula plan forces its user to sell stocks when prices are high, thus assuring the taking of profits, and to buy stocks when prices are low, thus assuring advantageous purchases. Basically, no formula plan is more complicated than that.

It is necessary, then, for a user of formula plans to decide in advance the levels at which stock prices may be considered high or low? It is with some types of plans, but it is possible to construct a formula plan that requires no forecasting ability whatsoever.

Dividing The Portfolio

To start with, every investment portfolio controlled by a formula plan is divided into two parts (which are not necessarily equal in size). One portion, commonly known as the "aggressive" or "volatile" portion of the fund, is made up chiefly of common stocks, although it may also contain defaulted bonds, speculative preferreds, or other types of securities that show wider than average fluctuations. The other part of the fund, known as the "defensive" or "stable" portion, is made up of cash, or high grade bonds, or possibly high quality preferred stocks. The characteristic of this part of the fund is that its price fluctuations are at the minimum. The purpose of the formula is to determine automatically, at any given time, the proportion of aggressive and defensive securities to be held by the investor.

Once the investment fund is divided, it is possible to develop two

Purchases and Sales By Formula

A New Approach to the Ancient Problem of Buying Low and Selling High

By HERBERT FREDMAN

Principal types of formula timing plans. One, the so-called "constant ratio" plan, requires no forecasting of market levels. Using this plan, two decisions must be made. One is the proportion between stocks and bonds that will be maintained under the plan. (A highly conservative investor may decide to keep only 10 per cent of his funds in stocks permanently; a speculator may want only 10 per cent in bonds. Many average investors decide on 50-50 ratios.) The other decision is the set-

normal proportion of stocks and bonds, to be held at a "normal" market level. But, as the market rises, under this type of plan, the proportion of stocks to bonds is decreased; as the market falls, the ratio of stocks to bonds is increased. So, in advance, the user must decide upon a "normal" market level. From that level a schedule is worked out to indicate points at which stocks will be bought or sold.

and is made up of half bonds and half common stocks.

A schedule is set up (based on time intervals, or market levels, or other predetermined points) of times for further transactions. Assume, for simplicity, that the schedule calls for revision of the fund every six months. Six months from today, the market price of the two portions of the fund are calculated. Perhaps the value of the stocks has declined 15 per cent, while the bonds have remained unchanged. The formula plan will then

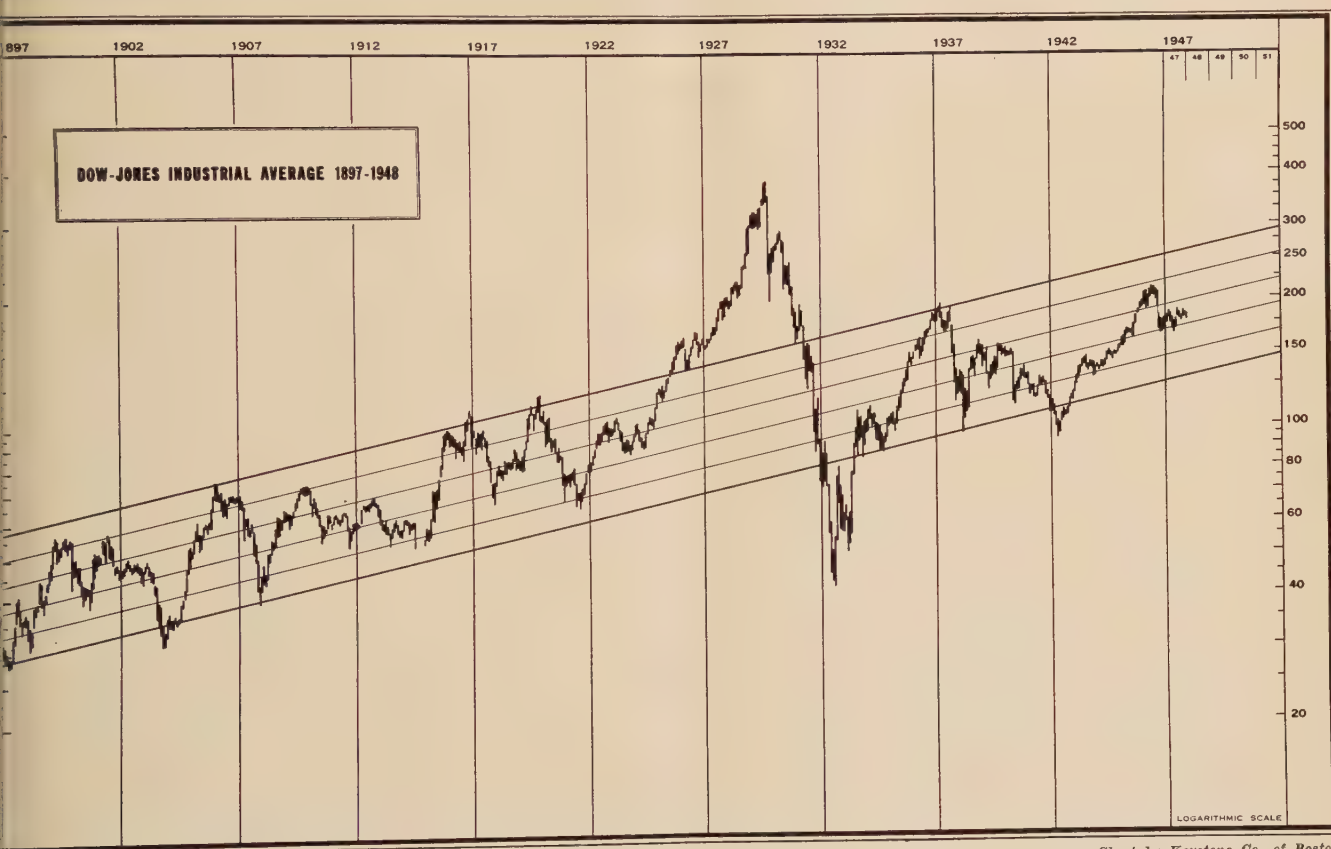


Chart by Keystone Co. of Boston

ing up of points at which stocks will be bought or sold to balance the fund and bring it back to the predetermined ratio. These points may be time intervals, such as every six months, or they may be based on market changes. A constant ratio plan can be started at any market level, and as long as the market continues to fluctuate it will bring the investor a slow, long-pull capital increase.

The other major type of plan is called the "variable ratio." Under this plan the fund is divided into a

Generally speaking, a variable ratio plan will provide greater capital growth than a constant ratio plan. Several methods have been worked out to indicate the normal or median range of the market. These include moving averages of stock prices or long term projections of market levels.

The objectives of the investor, as to income, security and capital gains determine at the start the division between the aggressive and defensive portions of the portfolio. But assume that the fund is starting out today,

call for a corrective transaction, which, in this case, would involve the sale of some bonds and the purchase of some stocks. If the plan calls for a constant half-and-half ratio between stocks and bonds, enough bonds would be sold, and stocks bought, to again make the proportions 50-50 on a dollar value basis.

Consideration will make it clear that the value of a formula plan depends largely on the difference in fluctuation between the two classes of securities in the portfolio. It would be quite

possible to have a fund made up entirely of stocks (or bonds) if the securities included some that were subject to violent price swings and others that were comparatively stable. The best results from a formula plan, however, arise when the price action of the two parts of the fund differs greatly. Probably the most effective plan, considering nothing but capital growth, would involve a fund made up of cash for the defensive portion and highly speculative common stocks for the aggressive portion.

If the security markets continue to fluctuate as they have in the past, a formula plan is almost a certain guarantee that the value of an investment fund will be increased between the time when the plan is started and a future date when the market level is again at the starting point. For example, assume that a fund is started today made up of 50 per cent stocks and 50 per cent bonds. The plan used, a very simply constant ratio, calls for the sale of stocks (to bring the value of the stock portfolio back to its starting point) whenever prices rise 25 per cent; and for the purchase of stocks whenever prices decline 20 per cent (which is equivalent to a 25 per cent increase). Now if the market value of the stock portion declines 20 per cent and then rises 25 per cent (or vice versa) there would be a net profit of $2\frac{1}{2}$ per cent on the entire fund. On any "round trip," in other words, where prices have started from a certain level, have fluctuated, and have returned to the starting point, a formula plan makes a profit certain. And the wider the fluctuations the greater the profit will be.

duPont Plan

Using actual market levels of the past, certain formula plans have been worked backward to discover what their results would have been. One such plan has been worked out by Francis I. du Pont and Company, members of the New York Stock Exchange, for the use of institutional investors. This plan is believed to be in actual use in handling certain du Pont family funds. Since the du Pont plan is fairly representative of variable ratio formula plans in general, a detailed explanation of its workings will clarify the method.

The first step in the du Pont plan is the calculating of a median line or normal level of stock prices, above which sales are made and below which purchases are made. The normal level under this plan is changed each month, by figuring the average monthly mean price of the Dow-Jones industrial stock average for the preceding ten years. This ten year "mov-

ing average" was decided upon as a normal level, the company says, "simply because we believe that ten years constitute a long enough period to include some good and bad times in any past or probable future segment of American life."

Under the du Pont plan, the ratio of stocks to bonds in the investment fund is determined by fluctuations of the Dow-Jones average above or below the median line. Here are the rules that govern buying and selling:

1. No purchases are ever made when the actual monthly mean price of the Dow-Jones industrial average is above its ten year average, nor are sales made when the actual monthly mean price is below the ten year average — except to adjust a fund just starting to the proportions of stocks and bonds called for by the plan at that time.

2. Whenever the actual monthly mean price declines to its ten year average from a higher point, the proportion of funds invested in common stocks is increased to 50 per cent of the total market value of the fund. On the other hand when the actual monthly mean price of the Dow-Jones industrial average advances to its ten year average, enough stocks are sold to make the stock portion of the fund equal to 50 per cent of the total market value.

3. For each ten percentage points that the actual monthly mean price of the Dow-Jones average advances above the ten year average, the proportion of funds invested in common stocks is reduced by 10 per cent of the proportion previously called for. In other words, if 50 per cent of the fund were in stocks, according to the plan, and the Dow-Jones average advanced 10 per cent, the plan would call for the sale of 10 per cent of 50 per cent, or 5 per cent. This would bring the stock portion to 45

per cent of the total fund. If the Dow-Jones average then advanced another 10 per cent, the stock portion of the fund would again be reduced by 10 per cent of 45 per cent, or to 40.5 per cent of the total investment. Under this plan, the stock portion of the fund would never reach zero, no matter how high prices went. As the Dow-Jones average declines below the ten year average, purchases of stocks are made on the same similar basis to sales.

4. A "delaying" provision is incorporated in the plan, so that neither purchases nor sales of stocks are made unless the actual monthly mean price of the Dow-Jones average advances or declines for one month above or below the mean price of the month before. This rule is based on past statistical records that show if stock prices advance or decline during a given month, there is a better than even chance that the trend will continue in the following month.

One Million To Seven

The month-by-month results following the du Pont plan over the past 60 years with a fund started with \$1,000,000 have been compiled. Without reinvesting any of the income, the fund would now be worth more than \$7,000,000. Even if operations of the fund had been started according to the plan at the peak of stock prices in 1929, all losses would have been recovered before the end of 1935, and by now a profit of nearly 100 per cent would be shown on the 1929 commitment. In actual practice, results of the plan probably would have been even better under skillful management, for the hypothetical example assumes that the stocks making up the Dow-Jones industrial average were used for investment of the stock portion of the fund. No attempt was made to select stocks that behaved better than the average.

Another organization, the Keystone Company of Boston, has published details of formula timing plans. These are based on the use of Keystone Custodian Funds (which are investment company shares), but they could be used with securities individually selected by the investor.

The Keystone Seven Step plan is based on the long term channel of the Dow-Jones industrial average. The company found that during the last 50 years, with the exception of the abnormal 1929-32 period, the tops of bull markets and the bottoms of bear markets formed a rising channel bounded by two parallel lines. Again, except for 1929-32, the Dow-Jones average has fluctuated substantially within the channel for 50 years. E

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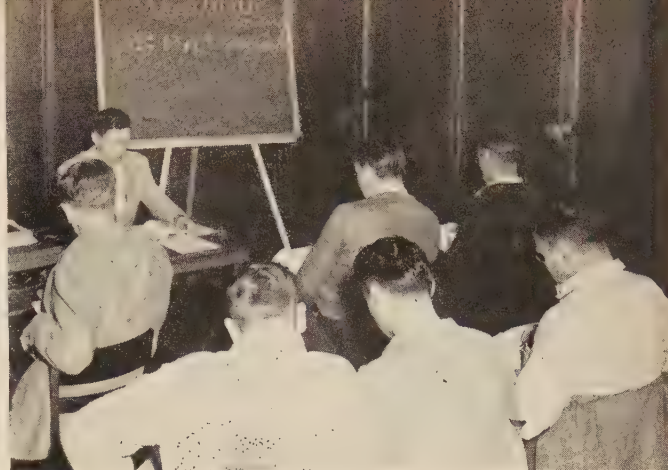
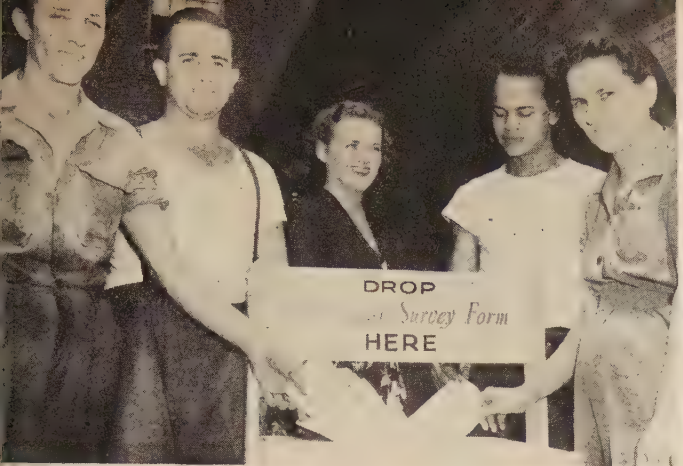
MAJOR SWINGS DOW JONES INDUSTRIAL AVERAGE

Rises

1897-1901	+103%
1903-1906	+144%
1907-1909	+90%
1914-1916	+107%
1917-1919	+81%
1921-1929	+497%
1932-1937	+372%
1942-1946	+129%

Declines

1901-1903	-46%
1906-1907	-49%
1909-1914	-29%
1916-1917	-40%
1919-1921	-47%
1929-1932	-89%
1937-1942	-52%



International Harvester survey shows thousands of employees desire off-hour training. One result: a math class.

"Back To School" Go Millions Of Industry Workers

THOUSANDS of grown-ups who thought their school days were over will be trooping back to classrooms this Fall, willingly and even joyously, because the companies they work for have made it easy for them to resume the pursuit of knowledge for its own sake or for the practical purpose of getting ahead in the world.

Business has always encouraged workers to improve their skills, and any company of consequence must do a certain amount of training in its own office or shop. But today's programs of forward looking companies go far beyond these narrow limits. Education is being taken up as a major management function, because business and industry need highly trained

people as never before and because education is recognized as an effective means for creating better employee relations and better citizens.

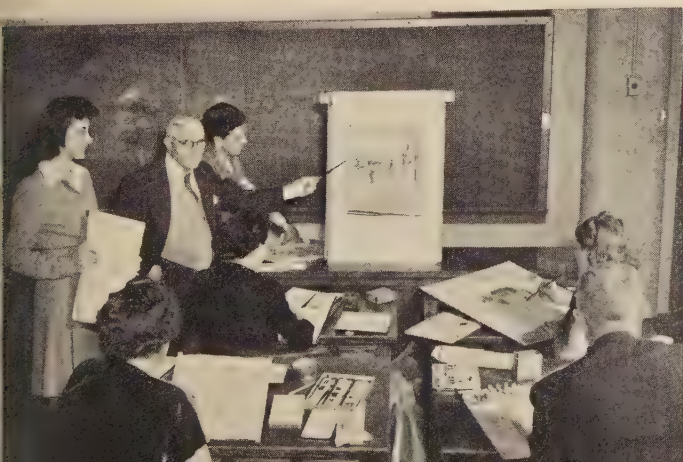
The range of educational opportunities being offered by some companies is almost limitless. Employees are given the right to pass up courses recommended by the employer and decide for themselves what they would like to study. The company sees to it that they get what they want, even though the subject may have no relationship whatever to the employees' work. If there is enough demand for a course in Sanskrit, there will be a course in that ancient language. No actual courses in Sanskrit have come to light, but there are many instances of employers providing classes in such

"impractical" subjects as golf, photography, textile painting, astronomy, boat building, and pen and pencil sketching.

These are exceptional cases, of course, because most individuals are interested primarily in knowledge and training that will help them to advance to better jobs, but they illustrate the trend toward making educational opportunities available to the great mass of workers whose contentment and happiness mean so much to good employee relations. "The best employee," says International Harvester Company, "is one who is well adjusted to his life outside working time as well as to plant conditions during the time he is at work."

International Harvester's own education program is one of the most complete to be found in American business today, and it embodies interesting innovations. The program runs the gamut from intensive training for sales, manufacturing, engineering, supervisory, dealer, and other

Leisure-time classes at Western Electric's Hawthorne Works: (Left) water color painting. (Right) mechanical drawing.





Western Electric "students" make their own television sets

Harvester's executive-training school in Chicago

high-level personnel, through "off-hour" courses in which every employe is eligible and most welcome to participate.

The outstandingly unique feature of Harvester's set-up for education is an arrangement with the University of Chicago for expert advice and service. The company pays the university \$25,000 a year, in return for which the university trains Harvester staff men as teachers and checks on their performance, helps to develop courses, and devises methods for evaluating the results of the entire program. The university, meanwhile, is enabled to observe adult education under what are practically the controlled conditions of a laboratory.

Harvester Students

On Chicago's near North Side International Harvester has established its "Central School" in a three-story building where selected employes from all parts of the country, and dealer representatives from the far corners of the earth, enroll for courses ranging in length from one to five weeks. During the first year and a half after the school was opened in April, 1946, more than 2,500 persons were graduated in fourteen different types of courses. This year's curriculum, under the broad headings Company Orientation, Personal Management, Sales, Human Relations, Technical Operations, Management, and Economics, lists 164 different subjects for study.

Harvester's "off-hour" program is described rather sententiously as being "directed specifically toward helping employes learn and adjust themselves to the problems that confront them during the time they are not working." It does that, but much more too. The volunteer student can take up studies that will help him get ahead in his work, or studies that will

improve his general knowledge or cultural development, or, if he pleases, he can simply go in for a good time studying something like music appreciation, fly casting, or gardening.

The company provides the classrooms, instructors, books, and any other equipment required, but the students choose the subjects. And it's all for free. An examination of the courses offered at various plants last year proves that most of the adult students have serious motives in attending classes when their working day is over. At the Springfield, Ohio, works, for example, there were courses in mechanical drawing, shorthand, typewriting, bookkeeping, business machines, shop mathematics, and metallurgy, but there was also a course in textile painting. At the Canton, Ill., works there were courses in chemistry, physics, algebra, designing of dies and fixtures, industrial electronics, and radio fundamentals, but because of popular demand the company also made available instruction in automotive repair, music appreciation, photography, house remodeling, cabinet making, boat building, navigation and meteorology (for aviation enthusiasts), home economics, Spanish, United States history, and personality improvement. Course books for other Harvester plants show a similar range, with the serious studies predominating.

Executive Training

If no one from the company's staff is qualified to teach a subject for which there is sufficient demand to make up a class, the company obtains an outside instructor, usually from a high school or university.

In addition to the Central School and off-hour activities, Harvester's training and education plan includes apprentice training, special manage-

ment training for supervisory employes, a two-year program for "progressive" students, and arrangements with universities for training "cooperative" students. "Progressive" students are college graduates who are assigned to manufacturing plants or sales operations and moved from department to department until they become familiar with the over-all operation, and then are permanently assigned to the plant or sales activities for which they are best suited. Many companies in a wide variety of business use this method for the initial training of college graduates believed to be of managerial caliber.

Employee Morale Up

Harvester, like many other manufacturing concerns, encourages and participates in cooperative arrangements with technical schools under which engineering students work in a plant for a portion of the year, and spend the balance of the year in school. Harvester has cooperative agreements with Northwestern University, Illinois Institute of Technology, University of Cincinnati, and Marquette University.

The fact that the firm implements a company continues to expand its training and education activities is proof enough that the results have been worthwhile, but a company representative was specific about it in a speech a few months ago. He said: "The company is confident — and the results of its revitalized program thus far bear it out — that the individuals who receive its training become not only better employes but better citizens of their communities."

International Business Machines Corporation has a highly organized education program. Fifteen years ago the IBM General Education Program

(Continued on page 48)

Industry Is Skeptical Of New Cost-of-Living Wage Plan

By STANLEY BRAMS

SOMETHING of a revolution exploded this past spring over collective bargaining practices—a revolution whose echoes will be heard next year and thereafter, when the unions come in with new demands.

The revolution consisted of the adoption by General Motors of the idea of gearing pay rates with living costs. Like all revolutions, the idea is being met with definitely mixed sentiments; it is a stimulant, but its ultimate effect will be apparent only after a period of time.

To place the G.M. acceptance of the cost-of-living wage advance idea in perspective it is necessary to glance backward for about eight years. War-time controls on wages were held fairly precisely; permissible advances—as under the Little Steel formula—were spread broadly and evenly across the entire industrial landscape. Then, after the war, pay advances began to

to negotiate pay raises on the basis of their own specific problems, not on the basis of following someone else. True, the bulk of the major settlements fall in the 11c-to-13c zone, except for the conspicuous 9c agreement of the meat packers. But even those small variances in major company agreement levels are unprecedented since the start of the war; and small companies will broaden the spread considerably further.

The one notable reason for these variations may be considered the revolutionary General Motors living-cost pay raise. At the time G. M. and the C. I. O. United Auto Workers Union settled, the consumers' price index of the Bureau of Labor Statistics, for April, stood at 169.3. Since 1940 it had risen from 100.2. During that same 1940-48 period, G. M. raises had lifted a 93c an hour pay average to \$1.491 per hour. This was a ratio of one cent for each 1.14 index points.

Accordingly, it was agreed that for each 1.14 points the index advanced

an "annual improvement factor" raise of 3c an hour a year, for the two years of the contract. Technology improves every year, G. M. figured, and living standards should improve. It was agreed by negotiation that this pair of related circumstances should be translatable at about 3c a year.

Wage raises in cadence with living costs increases are hardly new. A scattering of smaller companies have been following that kind of program for many years. Actually, the first and second round "patterns" were themselves in rough correlation with living cost advances of the periods involved. But the General Motors deal with U. A. W. was the first time that a major, front-page-news company had adopted the approach. And the "annual improvement factor" was something entirely novel.

The reactions to the plan are still coming in. And up to now, the ver-



GM's labor expert, H. W. Anderson



GM President Charles E. Wilson



UAW's Walter Reuther

fall fairly uniformly into patterns—an 18c to 18½c advance for the first round, a package of about 15c for the second round.

The first divergences after about eight years of broadside raises appeared in 1947. The package of 15c—generally consisting of 11½c plus payment for six unworked holidays—was modified at a very few major points. It was modified more as settlements trickled down through the smaller companies. The backbone of the pattern idea was being bent. But a force which might break it was still conspicuously lacking.

Then, this Spring, after nearly eight years, companies began again to seek

above 169.3, hourly pay rates would be raised a penny. For every 1.14 points the index fell from 169.3, hourly rates would be reduced a penny, but reductions on this account could not exceed 5c once the index broke below 164.6, pay rates would remain constant. This phase of the agreement was based on no particular statistic or reason beyond the give-and-take of collective bargaining.

In addition, General Motors created

dict is negative. Here are the pros and cons of the living-cost approach to wages, as industrial relations experts and business leaders see them:

For: (1) The plan is fair to workers: when their costs of living go up, so do their wages. (2) The sting from organized labor's annual demands is removed by the equity of the approach.

A third potent point is the one which was in the mind of G. M. president Charles E. Wilson when he developed the idea—that living-cost pay raises would effectually end the pattern pay concept.

Opponents of the idea marshal
(Continued on page 51)

Twelve Character Traits Cause



Kaufmann-Fabry

"... the raw material of failure lies buried in emotions and attitudes rarely subject to voluntary control."

Dr. Gardner, who is executive director of Social Research, Inc. of Chicago described the character traits of successful executives in the March issue of *COMMERCE*. In this article he discusses the traits that make for failure in executive posts. The psychological tests used to measure a person's qualifications, or lack of them for an executive job and the procedure used in testing were described in the March issue.

—Ed.

WHY do some persons who have better than average intelligence and the necessary technical skill and knowledge of a business fail when they are elevated to executive responsibility? Quite commonly such failures are ascribed to laziness, overwork, stupidity, drinking too much, dishonesty, unfriendliness, inability "to handle" people, and many other things. These and many

other words describe the symptoms of failure, but they do not help in understanding what causes some people to fail when they are placed in responsible executive positions.

Research into the personalities of executives, successful and unsuccessful, reveals that the outward behavior which leads to incompetence, resignation or discharge, is usually an end product and that the raw material of failure lies buried in emotions and attitudes. Unfortunately, these attitudes are rarely subject to voluntary control. Among the most common causes of failure are twelve traits:

1. The inability to see the forest.
2. Failure to carry responsibilities.
3. Unconscious desire to be something else.
4. Unconscious desire to be someone else.
5. Yen for express trains.
6. Inability to make room for other people.
7. Resistance to authority.
8. Arrogance with subordinates.

9. Prejudices which interfere with judgment.

10. Overemphasis on work.

11. Gravitation toward self-destruction.

12. Mental ailments.

Some discussion of each of these characteristics will indicate clearly their significance.

1. Inability To See the Forest. The intelligence test records of successful executives have been known to fall below the scorable level, while many unsuccessful men have very respectable I.Q.'s. The effectiveness and appropriateness of a man's ability however, is more important than the I.Q. is the ability to grasp broad problems is the ability to grasp broad problems, weigh alternative courses of action and then choose one course to act upon. This presupposes the ability to see the forest and the paths through the forest, despite the trees.

A detail-minded person is often practical, realistic man who is concerned with individual trees. Man

Executives To Fail

Diagnosis Avoids Errors In Executive Selection

By DR. BURLEIGH B. GARDNER

Such men are considered for promotion into executive ranks on the basis of excellent work in supervisory or departmental functions. If the man's organizing ability is really limited to concrete factors and details, however, it is unlikely that he will perform in an equally competent way at an executive level where his vision must be broader.

During the war the executive in charge of a technical function of a large factory provided an excellent example of this shortcoming. He was increasingly inactive, letting his responsibilities carry themselves or be discharged by assistants without supervision. His interest and ability were completely oriented toward accurate and neat paperwork, and he was relatively unaware of the broader problems that were, according to his superiors, the most important part of his position. When war work was over and he had to grapple with civilian production and evaluate competitive practices and models, he was lost. The whole basic problem of coping with competition left him bewildered. His records were beautifully kept, however.

2. Failure To Carry Responsibilities. As one goes up the scale of executive functions, the increase in responsibility and reliance on initiative and self-control are progressive. At the lower levels, there are few alternatives in a job; it is done in a specific way and usually at specific times. At executive levels, the situation is very different. There are always alternative actions, timing is something to be planned and calculated. Even the goals may be undetermined. The executive responsibility is to deal with such factors.

To succeed, therefore, an executive must view his responsibilities broadly and imaginatively. This point is well illustrated by the complaint of a top executive about one of his key subordinates.

"One man is a problem to me, and I can't quite lay my finger on it. He does what he is told to do, and does

it carefully. He never makes any particular mistakes, but somehow he doesn't seem to have any particular interest in his job. Not that he's bored—but he never does anything unless he's told to do it. I don't have time to tell him everything and to follow his work." Tests revealed the difficulty. The subject felt no particular responsibility for what happened; the world was a lot simpler if he minded his own business and did just what he was told. He was not depressed or poorly adjusted; his attitude toward life was one of taking what came along and not worrying about changing things or starting innovations. As an executive, he was a failure for that reason. As an assistant, always working on exact instructions, he would have been successful.

3. Unconscious Desire To Be Someone Else. If a man does not find satisfaction in working at a particular job, or in working for a particular company, it is almost inevitable that the quality of his work will fall below his best level. Yet quite often this disinterest in his job cannot be controlled at will, despite goading or lectures. This distaste may be offset for some time by rewards, promise of promotion, or praise—but such incentives work only on short-term discomforts. These over-praised techniques cannot be relied upon to sustain persistent and abiding effort.

The basic urges of many quite capable people lie in directions other than executive work—even though they rarely realize this themselves and often get into executive posts only to be unhappy and fail.

The case of a bright young man who was extensively trained by his company for which he had been a foreman is pertinent. His subsequent record with them as a departmental supervisor was very poor. He was markedly inadequate in his executive role, despite his high I.Q., good capacities, practical experience and pleasant cooperation. Tests revealed that he was not really interested in his work and subconsciously wanted

to leave it. His honest efforts to force himself, out of gratitude, were of little avail. He was not basically ambitious for broad, executive responsibility; he wasn't, however, so un-American as to refuse a chance for education and advancement.

4. Unconscious Desire To Be Someone Else. Many men have an intense desire for success which appears at first sight to be the drive and ambition characteristic of good executives. Often, however, the desire for success is a highly specific and self-referring goal which is irrelevant to the job and foreign to the goals of the company. Their desire for an executive position merely is a means to some other end and they have no interest in the work for its own satisfactions.

Men so motivated will seek and accept responsibility far beyond their experience and judgment, unaware of their own deficiencies and unconsciously determined upon getting to be something which they are not. They do not, as a rule, last long as executives.

A plant superintendent who failed showed these weaknesses. Tests revealed that he was irritated by the long working day (which interfered with cocktails), the profane, incorrect language of subordinates, and the general dirt and grime of his surroundings. Once of a leisurely, wealthy family, he was interested in earning money only to regain his former social status and ease.

5. Yen For Express Trains. In some cases where junior executives fail to realize their ambition for a top executive role they do so because they are completely bored with the intermediate tasks. Local trains are too slow for such people. They cannot or will not produce responsibly at the levels of routine tasks and therefore are never promoted to the positions of general authority dictated by their ambitions and potentialities.

6. Inability to Make Room For Other People. Some executive positions carry an almost awesome amount of power and permit their incumbents to be indifferent or even antagonistic to other people. Most executives, however, are not so situated. They must cooperate with their associates, and be able both to give help and accept advice on mutual problems.

This is not what is commonly known as the ability "to get along with people." It is more closely akin to the ability to accept criticism, or the ability not to take umbrage at dissenting points of view.

The man who cannot do so must eventually be dismissed by observant superiors who value the welfare of

the group and organization. This all too familiar type of trouble is illustrated by a rising young executive who proved his ability by competent work. He moved up rapidly for a time, and the continual upgrading itself partly served to conceal his antagonism and bitter competition with his associates. He was sharply curbed when, after several small incidents, he came to his superior demanding that one colleague be fired for insulting him, and made outrageous attacks on the integrity of other men well-known to the general manager. His executive responsibilities consistently narrowed as he repeatedly failed to work cooperatively with others.

Resentment and indifference to the needs of other men comes from a variety of sources. In some cases, it is a carryover from the role of a favored child who always seemed to get the privileges; it may also be an arrogance which turns into rage at any frustration. Whatever the cause, however, an indifferent or antagonistic attitude toward other people is incompatible with success in an executive.

7. Resistance to Authority. The attitudes which an adult has toward authority and the emotions aroused by discipline, often carry a trace of the attitudes of the child toward his parents. Many unsuccessful executives fail because, in essence, they cannot accept the direction and supervision of another person, which makes them feel that they are being pushed around and watched like a child.

The man who has never outgrown his anger at the way his father threw his weight around at home, or forgiven his mother for her pleas for more filial devotion, frequently shows a rebelliousness against organizational authority which is difficult to tolerate. These range from the chronic late-comer, through the man who somehow forgets important meetings and messages for his boss, to the real problem character who demands special privileges or ignores directions.

8. Arrogance With Subordinates. Another area of behavior, which relates to the executive's attitudes toward authority, is the way in which he uses authority on others. In a position of power over people, traits may appear which are apparently in sharp contrast to customary behavior. The man of intense ambition is usually conscious of the need to please superiors; he may overlook the need to be considerate of subordinates if it is not natural to him.

For example: An executive of considerable authority and long experience became a problem to his organization because of his eccentric de-



Dr. Burleigh B. Gardner

manding supervision. Tests showed that he considered himself far superior to others. His subordinates were of no interest to him except as their hard work enhanced his reputation up the line. He therefore treated them in a demanding, arbitrary way, with the result that his department was full of bitter, disillusioned people, intent only on moving out, to the detriment of the company.

The recognition that supervision plays an important role in company morale, and is reflected in work quality, turnover and cooperation, has attracted attention to the attitudes behind the exercise of authority. Study of the emotions and feelings of executives reveals that difficulty in supervising is common. Involved are emotional tendencies which come into play and which are not readily apparent in a man's relations with his superiors and associates.

9. Prejudices Which Interfere With Judgment. A clearcut ceiling is sometimes placed on the level of responsibility which an executive can successfully handle, because of systematic personal bias which leads him always to interpret situations in terms of his own fixed ideas about himself and others. Often these prejudices come out of his own background and his fixed ideas hobble him in dealing with certain types of duties.

A case in point concerns a man who, coming almost literally from nowhere, rose to a position of considerable prestige and authority in a large company. It was the impression of his superior (and corroborated by tests) that, while the executive in question could function competently at his present level of controlling a factory, his lack of cultural and social sophistication would be a definite

handicap at higher levels. The difficulty was not that he was unacceptable, but felt unacceptable in his own mind. His grammar, he thought, was not of the best, nor his vocabulary, and he was keenly sensitive (had always been) to these facts. He was severely critical of people whose backgrounds were markedly different from his own. He felt, of course, that these were similarly intolerant of him; the net result was that he could not be comfortable, cooperative or productive with them.

Sometimes, these personal fixed ideas result in a feeling of general suspicion by the executive—i.e., his boss is favoring someone else, or his associates are out "to get" him, or his subordinates are trying to undermine him. These prejudices rapidly undermine a man's efforts, and if, by accident, he is elevated to higher rank, he may try "to take it out" on his former associates, now his subordinates.

10. Overemphasis On Work. Outside interests and relaxations sustain the businessman's energy, and balance his activities. Some men live their work to an extraordinary extent, and regard their families and personal lives as expendable, even though pleasant. This channeling of interest is often apparent in very successful executives, but even so, it marks an unbalanced situation. Concentration on one avenue of endeavor leads to an extraordinary sensitivity to any frustration on the job. This super-sensitivity almost always leads to trouble if things are not going well. Family bickering is a natural result, to say nothing of tense situations created at the office. In many cases this concentration of work leads to eventual failure.

Such narrow channeling of energy and drive often arises from a sharply disciplined childhood in which the youth was continually required to prove his worth, and in which little encouragement was given for the enjoyment of activities which produced nothing but a pleasurable fatigue.

The narrow concentration on business may, and often does, result from an intense competition, in which the man feels that he will outdo his competitors by concentrating all his energy on success. This is particularly characteristic of men who were faced with the competition of older children in their families. It may spring from feelings of inadequacy, and real or imagined handicaps in purely social contacts. At any event, it is debilitating and exhausting.

This problem, again, is one which is often futilely attacked by advice from well-meaning superiors, doctors, wives and friends, all of whom think the

(Continued on page 33)

What's Ahead For Business?

An Analysis of Significant Factors In the Economic Situation

THE odds against making a correct business forecast are so great that one is always tempted to state his expectations in vague terms. I propose to be definite. Don't mistake this definiteness for self-assurance, however. The predictions I offer represent only my present estimates of the least probable course of certain key series of economic statistics over the next few months.

I have made the important assumption that in our international relations we shall continue in that tense and trying state which is neither peace nor war. Should this assumption prove false in either direction, these predictions would lose most of their relevance.

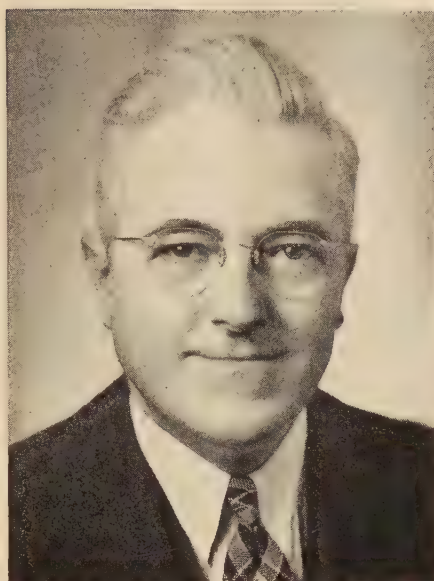
First, let me say in general terms what I foresee for the rest of 1948. The chances seem to me greater than even that the inflationary boom will continue through the current year. My best judgment is that the chances are greater than even that there will be a slump in business activity sometime in 1949. How far, if at all, the boom will extend into 1949, I am not now undertaking to predict.

More specifically, I shall undertake to predict the direction and the rough extent of movement of four basic and very significant series: first is disposable personal income; second, the physical volume of industrial production; third is wholesale prices; and, fourth, consumer prices.

Personal Income Rising

As to disposable personal income: The amount of income which people are free to spend or save, after they have taken care of or allowed for their tax burdens. The Department of Commerce reports this rate quarterly. The annual rate for the January to March, 1948 quarter, the latest reported, was about a hundred eighty-four billions of dollars. I offer the prediction that the level will rise ten billions above the first quarter before this year is out.

Second, as to industrial production: That series has been remarkably stable for the last eight months. It stands at 192, with the monthly average for 1935-39 expressed as 100. Only in April, affected by the coal strike, has



Garfield V. Cox

By GARFIELD V. COX

Robert Law Prof. of Finance, and Dean,
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the production level deviated appreciably from 192 in the last eight months. Although I am predicting a continuance of the inflationary boom through the rest of this year, I am not confidently predicting much increase in the Federal Reserve Board's index of the physical volume of industrial production, because of limitations of productive factors. One is shortage of labor, likely to be more acute rather than less as the draft goes into effect. Another is limitation in steel producing facilities, and, perhaps even more crucial, the shortage of steel scrap. These, together with shortage of certain other raw materials of industry, set nearby ceilings to output. The index will do well to hit 196.

The third series is the Bureau of Labor Statistics index of commodity prices at wholesale. That stands at

169 with 100 taken as the average level for the year 1926. This index will probably reach 175 this year.

The consumer price index stands now at 171 or thereabouts. Notice that for it, the average for 1935-39 is taken as 100. I should expect consumer prices, also, to reach 175 this year.

Probably more interesting than my highly fallible predictions are the considerations that have led me to these expectations. It will be helpful to begin by noting certain developments of the early part of this year. There was some decline in both the wholesale and consumer price indexes in early Spring ushered in by the grain price break of February. There was a sidewise movement for eight months in the industrial production index.

But the expansionary forces seem in the ascendant again. Why? Well, first, what about the reasons for the hesitation at the beginning of the year? I don't think it turned entirely on the grain price episode, although that was a factor. The government had turned in a cash surplus of about six and a half billion dollars in the first quarter of the year. In other words, the federal treasury had taken out of the income stream six and a half billions more than it had paid into it during that three-months period. And, some of that money was used to retire debt held by the central banks, thus reducing member bank reserves, and to retire debt held by the commercial banks, thus reducing individual deposits.

U. S. Controls Cash Spigot

The commercial banks themselves became more cautious in their lending and some borrowing customers of commercial banks became more cautious in their requests for loans. So that at the same time that the government was tapping the income stream instead of injecting funds into it, the banks were reducing their loans slightly. Then, in the second quarter, the government again turned in a cash surplus though a smaller one. The volume of checking deposits in the country and the volume of currency in circulation shrank for the first time in a long while. This would not necessarily have precipitated hesitation in business if

SPEECH OF THE MONTH

Made before the Management Institute
for Smaller Business at the University of
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businessmen and consumers had been disposed to spend much more freely the liquid balances they had, but they weren't at just that stage. So, coincident with the shrinkage in the quantity of money, there was some decline of prices and hesitation in business.

Why didn't this recession develop into a slump? I think we can probably agree upon a few major factors. First was the beginning of increased spending for military purposes by our government. The increase in spending was not very large in itself, but the prospect seemed to be that it would grow continuously for perhaps a period of two or three years until the rate of spending on the military establishment would be several billions higher than last Spring. That caused a good many consumers and business managers to feel that instead of easier markets ahead in various areas where there had been tightness, we were likely to move the other way. Second was the European Recovery Program. It became increasingly clear that our own self interest required it, and that the volume of financing it would call for would be large for a long time. Third came the five billion dollar tax cut which left consumers a larger disposable income. Fourth came the third round of wage increases which was certainly larger than most of us had expected.

Borrowing Seen Rising

The foregoing developments pretty well guaranteed that instead of the federal treasury tapping the income stream (taking more out than it put back) it would at least be putting back as much as it took out, and certainly for the second half of this year would be injecting more than it took out, perhaps by a couple billions of dollars. I also note the very rapid rate of increase under way again in bank loans to business and some rise in bank holdings of municipal bonds. Banks will probably pay out to their borrowing customers two billions more dollars the rest of this year than the borrowing customers will be paying off at the banks.

What are some of the things that could upset this forecast? For one, consumers could postpone buying. Even in spite of all we've said, there are lots of items that consumers may buy which they would not have to buy this year. So, with consumers more liquid than in any past period, with a great accumulation of postponed purchases in various lines, consumer spending is more dependent on the current rate of consumer income than ever before. Consumers accumulated such huge liquid savings and such shortages of semi-durable and durable goods that, ever since the war restrictions were lifted, consumer spending

has been a dynamic factor of major importance. Consumers could defer letting house construction contracts, but I am betting that on the whole residential construction is going to continue very high the rest of this year. I say this in spite of the fact that Title No. 6 financing may not be renewed at the special session of Congress. Certainly enough arrangements were made for Title No. 6 Insurance to keep building in that category going pretty high for a few more months. Mortgage money is getting tighter. But, I expect residential construction not to show adverse effects from that this year. Firms could defer their plant and equipment spending. In the industrial sector, construction is already declining notably; in others it is not.

Consumers Ready To Spend

In general it seems to me that the evidence points to continued readiness to spend now. Some of you have doubtless watched the surveys of consumers' finances conducted for the Federal Reserve Board. The summary statement of the most recent one appeared in the July issue of the board's bulletin. One thing that impressed me was that consumers, who were intent upon buying new houses or building this year, were prepared to pay something like 10 per cent more than last year's costs, which is roughly the increase that has occurred. In other words, they are not being priced out of the market. Also, more consumers are intent upon buying new houses this year than there is prospect of building this year.

In the matter of plant and equipment, the Securities and Exchange Commission's reports and the McGraw-Hill surveys indicate that equipment spending is running at peak levels and there seems small disposition to postpone. There is every likelihood that spending for equipment, which is larger than the spending for plant, will run higher during the second half of 1948 than for the first half. The spending for plant is likely to be well maintained.

The better supply of grains is not going to solve the dairy product shortage or the meat shortage quickly. Any further weakness in grains may be largely offset by strength in the meat and dairy products sector. So we can't count upon generally falling food prices fully to cancel out the effects of advancing rents and industrial commodity prices. It is this combination, then, of the growing monetary demand for goods and services, on the one hand, and the limited supply and limited capacity to supply, on the other, that supports the prediction of further rise in prices.

I've acknowledged that there are factors pointing in the opposite direc-

tion. I'll take time only to mention a few of them. Manufacturers' and retailers' inventories grew rather rapidly early this year. At latest report manufacturers' inventories were still growing, especially in the non-durable sector. Now, if these inventories were to fail to move this Fall, we'd have an inventory crisis on our hands and the slump that I'm talking about would come sooner than I am here predicting.

Some of the inventories of non-durables that have been growing in dollar volume for some months are textile mill products, leather and leather products, rubber and rubber products. In the durables I notice that furniture inventories have mounted month by month. Whether sales will be strong enough to clear those out remains a question. Some price cutting for both old and new houses is reported from a few areas. Industrial construction we've acknowledged, seems to have passed its peak of volume. The outlook for cotton does not appear attractive. Prices of some of the grains promise to call for government support. Note, however, that under the parity formula, if industrial prices rise then the support levels for the grains rise. If prices in the industrial sector should go very much higher, and the present policy of 90 per cent parity should be maintained, we could build up for ourselves a first-class agricultural crisis or a first-class burden for the federal treasury. But that's another story.

Also, this consumer finance survey makes clear that an increasing number of consumer units, largely families with fixed incomes, are exhausting their savings and their credit. But the deflationary influences from this source don't seem likely to be adequate to precipitate a recession in 1948.

Stock Market Trends

The rather discouraged behavior of the stock market is additional evidence to cast in the scales against my prediction. But the stock market has all along placed a low value on the boom.

For early notice as to whether my forecast is working out or not watch closely the following factors in the dynamic segments of spending in our economy:

1. Consumers' durables, listed in the Federal Reserve Bulletin and in the Survey of Current Business, also in the financial pages of your papers and weekly magazines. The reports on new contracts for house construction and on mortgage financing are extremely significant. Maybe the housing boom will falter sooner than I have suggested.

2. Plant and equipment—maybe the present plans will not be carried

(Continued on page 61)

Why heavy-duty fleets keep costs low, performance high with

Stanolube HD



MAINTENANCE REDUCED 20%

In start-and-stop fleets, Stanolube HD minimizes cold-engine sludge formation. The all-weather detergent action of this superior heavy-duty motor oil reduces fouling of engine parts.

Example: The Red Top Cab Company, Appleton, Wisconsin, switched to Stanolube HD (and to Standard Oil gasoline and greases). Overall maintenance dropped 20%. Valuable cab time was saved by reduced lay-up for repairs.



OVER 100,000 MILES BETWEEN VALVE AND RING JOBS

Because Stanolube HD is detergent and heat resistant, it keeps rings free and active, protects engines against wear under severest heavy-duty fleet operations. The use of this oil plus good maintenance practice brings low-cost, reliable performance.

Example: Many engines in this large bus fleet of Chicago & West Towns Railways, Inc., have travelled over 100,000 miles before needing ring and valve jobs.



ENGINES FREED OF SLUDGE AND GUM

Stanolube HD holds in suspension various oil contaminants, until they are drained out when the oil is changed.

Example: Quarry trucks and machinery of Everett & Clark, contractors, Plattsburg, Missouri, operate continuously under heavy loads and hot, dusty conditions. For three years Stanolube HD has kept these engines clean, has put a stop to sludge and gum troubles, and has reduced upkeep time and costs.

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Making Workers of the Handicapped

(Continued from page 15)

tional tools to set up their own businesses.

Though many persons have identical handicaps, each is treated as a separate case. Since educational background, aptitude, and personal traits must be considered, simple psychological tests are given most applicants; some are given exhaustive university tests. Training programs are also on an individual basis. Trainees may be sent to a plant for on-the-job training, to a trade school, to a university, or to an individual craftsman for apprentice training.

This program may sound like open-handed generosity with taxpayers' money. It is not! A major aim of rehabilitation is to make handicapped persons self-supporting, and this cannot be accomplished with pampering or paternalism. A client's financial status is carefully investigated; if the findings so warrant, he must share in the cost of both treatment and training. This provides a morale building lift as well as saving taxpayers' money.

The biggest problem, according to rehabilitation experts, is getting industry to recognize the value of handicapped persons as workers who are willing and able to compete for jobs within their capacities. The war advanced the cause of the handicapped

worker by about 25 years, but there is still a great deal of educational work to be done to overcome unfounded prejudice among employers.

One common excuse for not hiring handicapped workers is the contention that they are more likely to have accidents, and that insurance companies penalize employers by charging higher premiums. Actually, handicapped workers have a better accident record than their more fortunate brothers, and insurance companies have no prejudices against them. The Association of Casualty and Surety Executives has refuted the charge that workmen's compensation insurance rates are higher for employers who hire the handicapped. Rates are determined by the relative hazards in the company's work and by its accident experience, not by the number of handicapped people on the payrolls.

The Federal Security Agency surveyed 100 employers of handicapped workers and found that 56 per cent of these workers had fewer accidents than the non-handicapped, 41 per cent had records as good as those of their fellow workers, and only two per cent had poorer records.

The casualty insurance companies have prepared a booklet, "The Physically Impaired—A Guidebook to

Their Employment," to help businessmen in the proper placement of handicapped workers.

Employers who feel that handicapped workers can be employed only out of sympathy are another problem. Handicapped workers have better production records than the non-handicapped. The 100-company survey showed that 66 per cent of the handicapped ranked equal to the able-bodied in efficiency; 24 per cent were better, and only 10 per cent were below par. As for absenteeism, tardiness and job turnover, the able-bodied workers fell far below their disabled colleagues. The latter, recognizing the difficulties of getting and holding a job, are seldom late; furthermore, they don't flop from one job to another every few weeks.

Handle Many Jobs

Employers who investigate the potentialities of handicapped workers are amazed at the number of jobs these people can do. A U. S. Civil Service Commission survey disclosed 3,500 different jobs that some physically or mentally handicapped persons can handle. Rehabilitation people ask only a chance to prove what their clients can do. The Chicago office of the Illinois Division of Vocational Rehabilitation has four blind men on its staff who can step into manufacturing plants and demonstrate that they can handle a number of different machines.

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U. S. Aids Handicapped

Rehabilitation work is proceeding nationally with the financial assistance of the federal government. Under legislation enacted in 1943, the federal government now pays the states the full amount of administration costs for their rehabilitation programs, and the full amount of their expenses for vocational guidance and placement. In addition, the federal government pays half of the cost of medical and psychiatric examinations, medical and surgical treatment, hospitalization, occupational tools, and other rehabilitation expenses for those who cannot pay their own way.

During the fiscal year ended June 30, 1945, the first full year under the federal government's expanded program of assistance, services were provided for 161,047 handicapped men and women. Of these, 41,925 obtained jobs, while the others were still in the process of rehabilitation or had made adjustment and did not need major rehabilitation services. Seventy-nine per cent of those who got jobs were unemployed at the time they applied for rehabilitation, and 18 per cent had never worked before. Their aggregate wages and subsistence of approximately \$12,000,000 a year from odd jobs, part time employment, friends, and public and voluntary agencies, increased after rehabilitation to \$73,855,700 in direct wages. The cost of converting these people into taxpayers was \$9,855,544, of which the federal government paid \$7,135,440. The federal Office of Vocational Rehabilitation estimates that these same people returned more than \$6,000,000 to the government in income taxpayments during the first year they achieved financial independence.

The rehabilitation program has expanded considerably since 1945. In Illinois alone, 3,037 persons were re-

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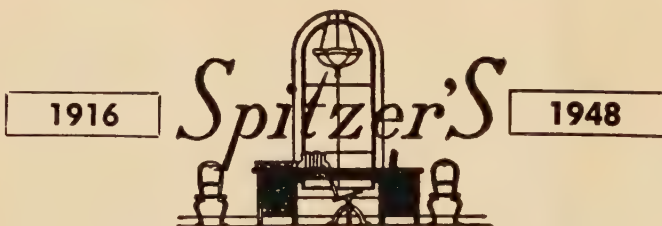
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habilitated during the year to June 30, 1948, an increase of nearly 50 per cent over the previous year. The average earnings of the persons rehabilitated increased from \$743 to \$1,762. The average cost to the state was \$185 for each individual receiving service.

Figures like these emphasize the economic soundness of vocational rehabilitation for the handicapped, and those conducting the program stress the economic side rather than the humanitarianism of rescuing fellow humans from the depressing effects of idleness and dependency. Money thus spent is proving an excellent investment for it is not only converting tax-eaters into taxpayers, but providing industry with sorely needed skilled manpower.

Fuel Crisis

(Continued from page 14)

screened stoker coal—may occur again this Winter. These varieties have been in abnormally heavy demand for domestic heating and, although the industry has made notable progress in the building of new preparation plants and crushers, there is still insufficient processing equipment to assure an ample supply of preferred types of coal at all times. They are all likely, however, to be in better supply this Fall and Winter than during the 1947-48 season.

In the comparative market positions of the major fuels, natural gas holds a sharp price advantage over coal and oil. This advantage has speeded its growth in both domestic and commercial fields. Almost 10,000,000 residential customers were being served by natural gas utilities at the end of last year, or more than 1,000,000 more than in December, 1946. Estimates are that domestic consumption during 1947 was almost double the 1939 level and commercial use was roughly two and one-half times the 1939 figure. The price margin that has brought on this rapid growth is demonstrated in the experience of electric utilities. For a group of electric utilities using coal, fuel costs per 1,000 kilowatthours rose 71 per cent from 1939 to 1947, while for a group using natural gas, unit fuel costs decreased nine per cent.

With the tremendous growth, the drain on gas supply has reached such an intensity that service failed in some areas at the peak of last Winter's seasonal demand. The most notable case was in the Detroit area, where a gas shortage curtailed auto production and left some 200,000 workers jobless in January and February of this year. Principal gas suppliers in the Chicago area, however, have followed a conservative policy in their acceptance of new customers and as a result gas

supply to this area is expected to be wholly adequate for all residential and commercial users.

Backlogs of installation requests continue high, although the Chicago area utilities have made progress toward accommodating this new business. A second pipe line from Texas to Joliet, Ill., is now in partial operation bringing the Chicago area an additional 69,000,000 cubic feet of natural gas a day. When work is completed on the new supply artery, probably by February, 1949, its daily capacity will have been raised to about 146,500,000 cubic feet. This additional supply of natural gas will probably enable many backlogged 1947 service orders to be filled, but it will fall short of supplying all those who desire gas. A third pipe line to the Chicago area has been discussed, but the shortage of steel pipe has prevented such a project from proceeding beyond the discussion stage. Meanwhile, the utilities are carrying forward plans for the construction of several liquid gas storage plants and one such unit is expected to be in operation within two years.

Considered as a whole, therefore, there is considerable justification for optimism in viewing the Winter fuel picture. Progress toward accommodating tremendously expanded demand has been made by all major suppliers as a result of the favorable postwar profit position of the fuel industries and their consequent heavy volume of investment. While rising fuel prices have provided the capital for unparalleled facilities expansion, the steel shortage continues to hamper progress on all three fuel fronts. Steel pipe remains high on the list of critical scarcities.

Nevertheless, so far as the average domestic or commercial fuel user is concerned, the immediate outlook is brighter, the most serious postwar hump appears to have been passed, and progressively better fuel supplies appear certain for the years ahead.

12 Character Traits

(Continued from page 24)

can help. But since the concentration on work arises from intense illogical feelings, it often cannot be voluntarily controlled.

11. Gravitation Toward Self-Destruction. In some cases where failures were connected with overwork, the candid observer may note that the executive "seemed bent on killing himself." That is a subtle and obscure cause, but it definitely lies at the root of a good number of failures. Some men fear success. They will work earnestly for it in accord with their training, demands of their social group

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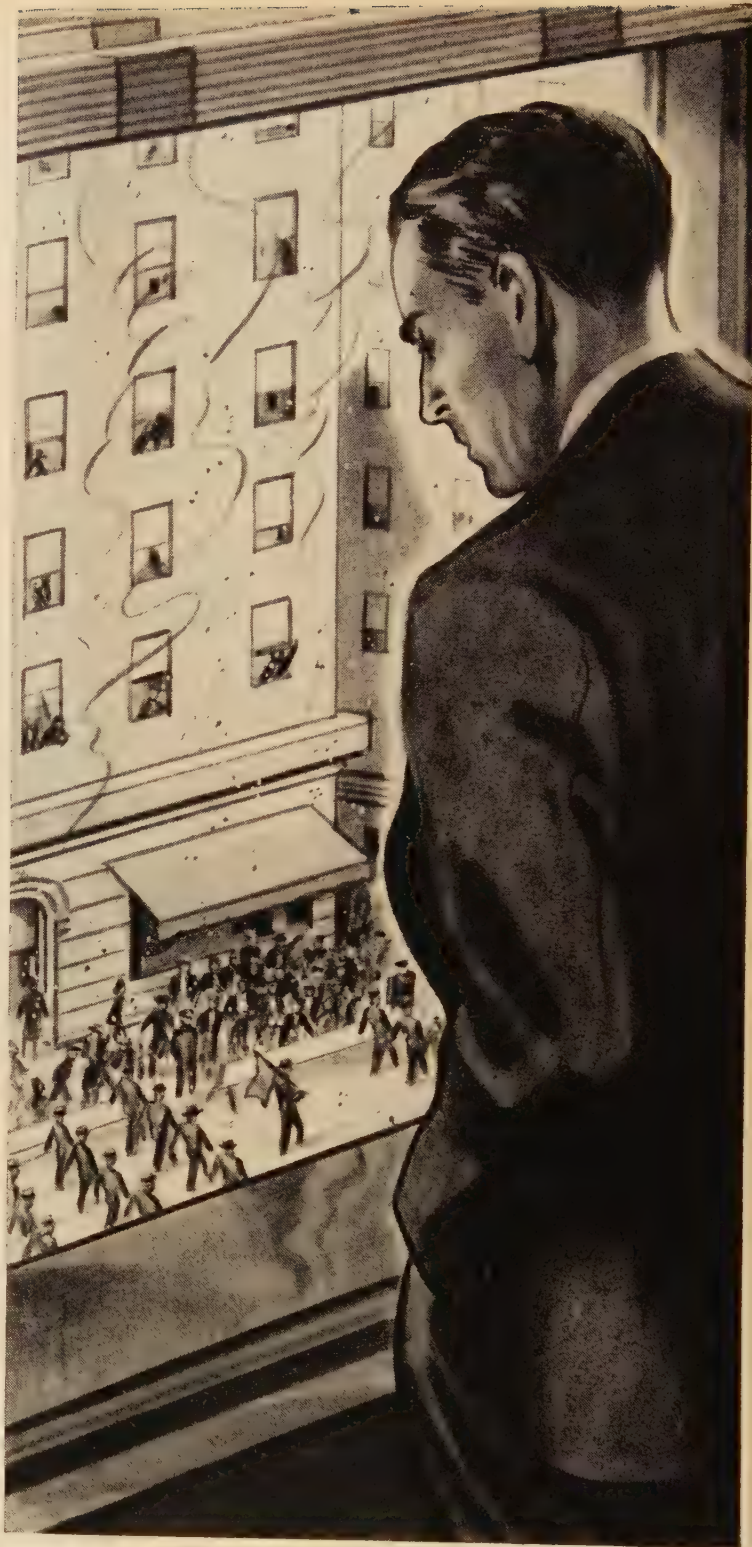
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and their family. But when it becomes too possible or gets too real, they are frightened by the necessity of taking responsibility and cut themselves down.

Many men who fail when given "the big chance," have deep, irrational beliefs that they are basically unfit or unable, are selfish, unkind or worthless. When put into a position which demands that they are adept, responsible, generous, ethical or worthwhile, they strive to prove to themselves and the world that they are not so.

Where these deep, irrational beliefs spring from is sometimes hard to determine. Often it comes from early family life. Their families expected certain norms of behavior or performance from these men as youngsters, and they never quite measured up to those family standards. They were forced to try and never quite succeeded. They were continuously goaded onward, but never quite made the goal. More important, however, was the fact that they were never praised even for their partial youthful successes.

Urge For Failure

Fairly often, sons of successful fathers who are still on the scene, feel this subconscious urge for failure. They have been led to believe that they could never come up to their father's stature, and having accepted this all their lives, they balk at disproving it by succeeding at their larger tasks.

Then also, children who are impetuously disciplined and then just as impetuously forgiven, grow up and unconsciously provoke punishment in order to provoke affectionate forgiveness.

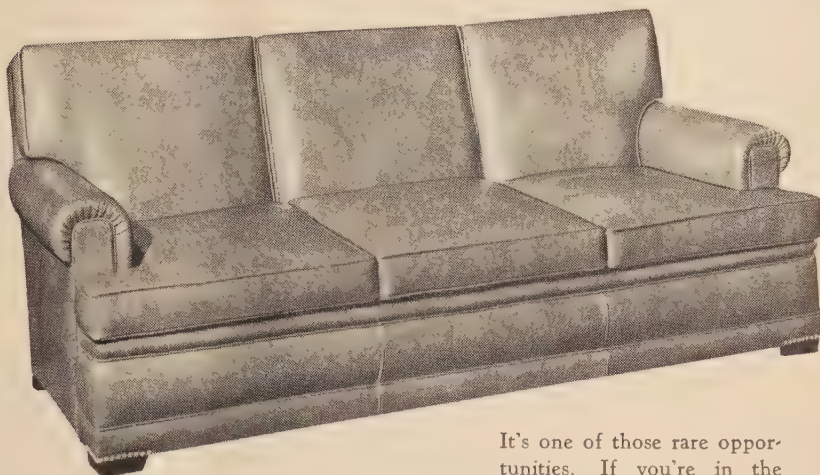
A typical example involved a generally efficient employe who was puzzling and disturbing to his superiors because he could not be counted on to produce well in new situations. Usually, he handled them well, but at times he would fail so completely and obviously that considerable damage was done to his and the company's welfare. Praise and encouragement had been generously doled out, but without any evident effect. Dismissal was being considered when tests were made which explained his behavior. He was subconsciously convinced of his worthlessness, and felt that his success was unearned, a product of luck and the more generous people who surrounded him. He failed in order to "prove" his incompetence, and to provoke the punishment which would pay up his debt for their generosity.

Whatever the cause, self-destruction lies behind more failures and half-failures than is usually recognized. Generally this tendency is most difficult to treat or change, because the man is usually unaware of it.

12. **Mental Ailments.** This appears

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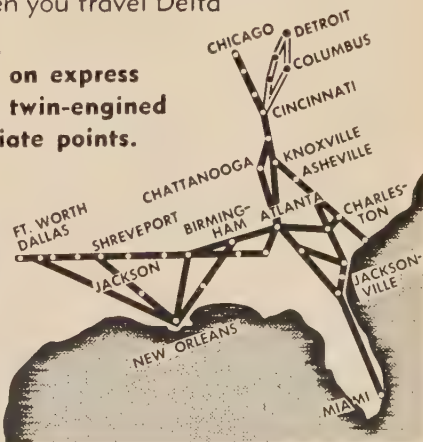
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obvious, except that in many cases the ailment is not obvious at all. Executives, like other people, are subject to nervous and mental disorders. Sometimes, feelings of inadequacy or biased judgment interfere with work long before the appearance of any more striking derangement. Sometimes they do not.

In many cases, the man may work effectively and gain a position of considerable importance before any serious interference arises. The following two cases illustrate this type of ailment.

The head of a large technical department was a very "reserved" man, who spoke rarely to people, and spent his time alone in his office. Tests revealed that he was living in a fantasy world almost exclusively, equally unaware of his work or surroundings. Since dismissal would be a catastrophic shock to him, it was decided to give him an assistant to take over his functions until his family recognized the seriousness of his ill health.

Mental Illnesses

An executive was a serious problem because of his irritability and caustic tongue. He could not get along with anyone, and his superiors tolerated him only because he produced high quality work. Tests revealed that his personal unhappiness had reached such proportions that he could not control himself, even though he wished to be liked by his colleagues. He had a very treatable mental illness, but one which would not respond to encouragement or sympathy alone.

The most common ailment among unsuccessful executives is a deep and

abiding depression, common because many of these men believe that they are not as productive or admirable or worthwhile as they should be. Most people are sensitive to their faults and deficiencies, and this is true of successful executives also. But unsuccessful executives—to a large extent—are so extraordinarily sensitive to their real or imaginary shortcomings, that their sensitiveness approaches a paranoid conviction that they cannot possibly succeed.

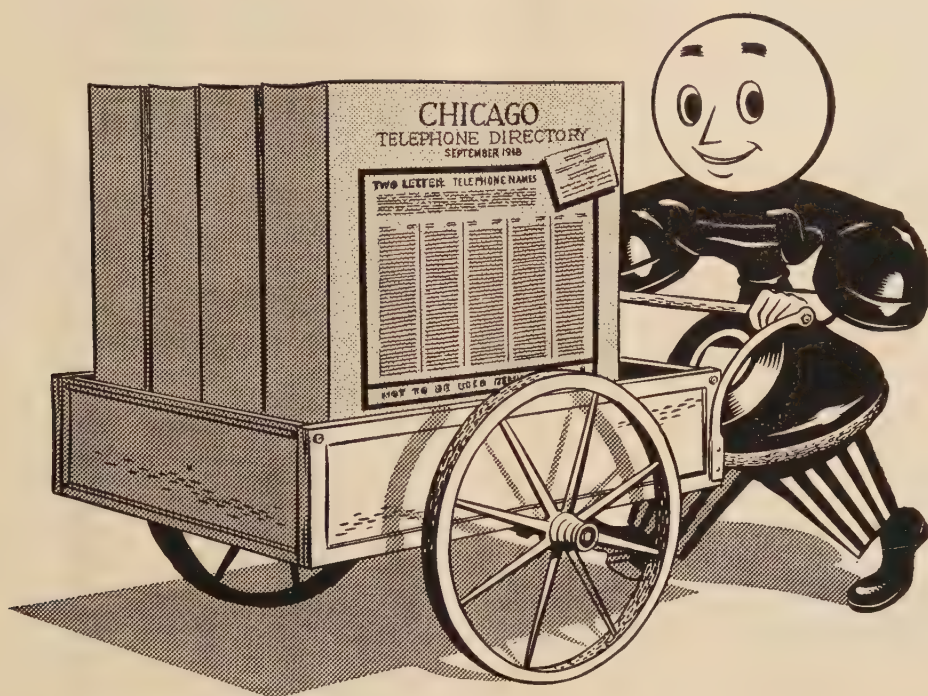
Some Better Elsewhere

Failure, when it occurs, is, of course, usually the result of a combination of the foregoing factors named. But it should be understood, of course, that failure as an executive is not a broad indictment. Many men who fail in executive work are capable and effective people, who just have a subconscious and inarticulate philosophy of life different from the decision-making, action-oriented one of the successful executive. Often these same persons succeed at an equal or higher level in other fields.

They may be (and often are) interested in technical problems, research, the pursuit of ideas, or some autonomous field more than they are interested in the burden of responsibility and administration which is the most important part of executive function. In other vocations or fields, in selling, promotion, technical occupations, and so on, they may make important contributions and earn definitive success. But not as a business executive.



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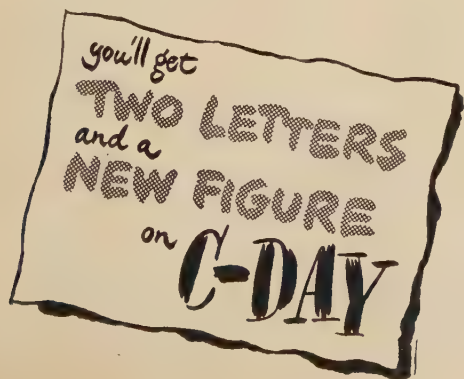


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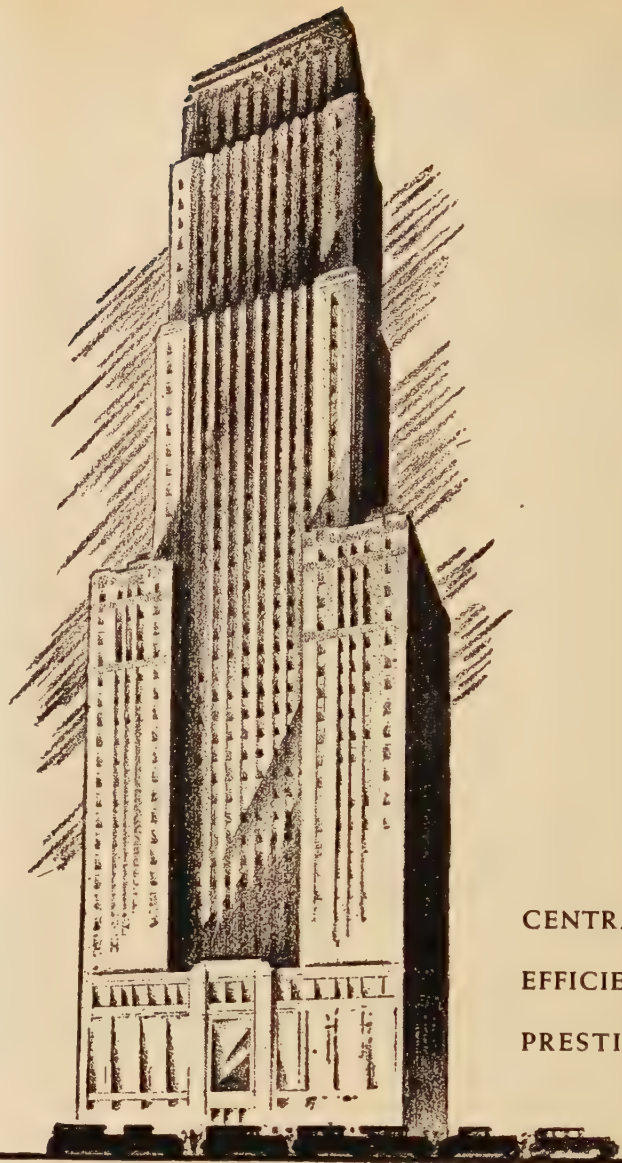
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Reviews of Middle-western Companies

FLORSHEIM Shoe Company, largest manufacturer of high priced shoes and, through subsidiaries, operator of retail stores in most large American cities, currently is faring better than the footwear industry generally. Both wholesale and retail sales of the company, in dollars, are at approximately the levels of a year ago, although unit sales are somewhat lower. The company is feeling the effects of high costs of manufacture, however, particularly the cost of materials. In 1939, according to the company's own figures, the cost of materials represented 38½ per cent of the wholesale price of a pair of shoes.

While all costs have risen, the major problem of the shoe industry is the high price of leather. The international political situation is an important factor in leather prices. Countries now behind the "iron curtain" formerly were the source of high grade leathers not only for other European nations but for a substantial amount used in the United States as well. With that source of supply shut off, the Western European nations have turned to the United States for supplies, some of which they are receiving under the Marshall Plan.

Name Promotion

Continued high costs and the recession in volume produced a drop in net income of the company to \$804,525 for the six months ended April 30, the first half of the current fiscal year, as compared with \$1,446,000 for the corresponding period a year earlier. The 1948 first half net was equal to \$1.18 a share on the Class A stock and 59 cents a share on the Class B, against \$2.13 and \$1.07, respectively, in the 1947 first half.

The Florsheim shoe is one of the most widely known in the United States as a result of extensive advertising over many years. The Florsheim Shoe Company, incorporated in 1922 in Illinois, succeeded a company established in 1892 as Florsheim and Company. Early in the present century the company entered the retail shoe business and has expanded this division over the years until today there are Florsheim stores in

nearly every American city of more than 100,000 population. All but two or three of the stores handle men's shoes exclusively.

The retail stores are operated by subsidiary corporations in which the company owns interests ranging from 51 per cent to 90 per cent, with the majority in the higher bracket. The minority interests represent stock held by store managers in accordance with the company's policy to encourage its managers to participate in the ownership. Company-controlled stores sell 20 to 25 per cent of the Florsheim production, with the balance sold by approximately 3,800 dealers in the men's line and 1000 dealers in women's shoes.

Shoemaker Since 1892

Although Florsheim shoe stores carry a lower priced brand sold under the company-owned trade mark "Worthmore," the company restricts its manufacturing operations exclusively to the high priced Florsheim line and purchases the "Worthmore" shoes from other manufacturers on specifications. Florsheim began the manufacture of men's shoes in 1892 and women's shoes in 1931. The company has avoided extremes in its women's shoes and this line includes only shoes in medium-high and low heels.

Florsheim plants are located in Chicago except for two units for stitching uppers, located in LaSalle, Ill., and Danville, Ill. In Chicago the company owns three plants and leases two others. In addition to fabricating shoes, the company operates a sole leather plant, manufactures shoe cartons, and produces window displays. A new building is being erected by the company in the south half of the block bounded by Canal, Adams, Clinton and Monroe streets in Chicago. The company owns all but a small parcel of the land under the new plant. The new structure will have a floor area of 306,000 square feet and will be used for general offices and for the manufacture of men's shoes. Manufacturing capacity of the plant will be about 7,000 pairs daily. Present maximum capacity of the Florsheim plants is 12,000 pairs

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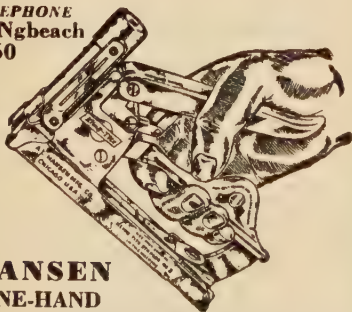
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of men's shoes and 3,000 pairs women's shoes a day. The company has not indicated whether the capacity of the new plant will be used to increase total output or will replace some factory units now operated.

Reflecting both increased unit sales and higher prices, wholesale sales of the company rose more than 40 percent in the fiscal year ended October 31, 1947, after having held within a fairly narrow range for the preceding four years. Earnings reached a new postwar high in 1947. Net income of \$2,100,068 for the 1947 fiscal year was equal to \$3.09 a share on the Class A stock and \$1.55 a share on the Class B shares. In the preceding year net income amounted to \$1,242,548, equal to \$1.83 a share on the A stock and 92 cents a share on the Class B.

Earnings of the retail store subsidiaries are not consolidated with those of the Florsheim Shoe Company. The importance of the retail operation is indicated by the fact that dividends received from affiliated companies were reported at \$859,990.

Net income for the eleven fiscal years 1937 to 1947, inclusive, and earnings per share, were as follows:

Years ended October 31	Net Income	Earned Per Share*
1947	\$2,100,068	Class A \$3.09 Class B \$1.55
1946	1,242,548	1.83 0.92
1945	1,008,981	2.99 1.50
1944	944,137	2.36 1.18
1943	1,011,360	2.53 1.26
1942	1,031,770	2.58 1.29
1941	1,238,738	3.10 1.55
1940	1,098,231	2.74 1.37
1939	998,191	2.50 1.25
1938	456,889	1.14 0.57
1937	928,812	2.32 1.16

*Based on outstanding shares, as follows:

	Class A	Class B
1947	369,978	618,120
1946	368,978	618,120
1945	182,379	309,060
1944	245,470	309,060
1937-43	236,293	327,414

Capitalization of the company consists solely of the Class A and Class B shares, both of no par value. A term loan of \$900,000 was paid in full on July 1, 1947, and six per cent preferred stock formerly outstanding was retired by the company in 1934.

Each share of Class A stock is entitled to receive twice as much in dividends as each share of Class B. The Class B shares are convertible into Class A stock at any time at the option of the holder, on the basis of two shares of B for each share of A. The stocks were split two-for-one in June, 1946. The Class A stock is listed on the New York Stock Exchange.

Dividend payments thus far in 1948 on the Class A stock have totaled 90 cents a share, consisting of 40 cents

share paid January 2, 25 cents a share on April 1, and 25 cents on July 1. Payments of half those amounts were made on the Class B stock. The dividend payments for the calendar years 1931 to 1947 were:

	Class A	Class B
1947	\$1.80	\$0.90
1946	1.00	0.50
1946	1.00	0.50
1942-45	2.00	1.00
1941	2.25	1.12½
1939-40	2.00	1.00
1938	1.00	0.50
1936-37	2.00	1.00
1935	1.00	0.50
1932-34		
1931	1.87½	.093¾

After 2-for-1 split. *Before stock split-up.

The balance sheet as of October 31, 1947, showed cash assets in excess of total current liabilities. Current assets of \$10,349,889 included cash \$2,580,719, United States Treasury Certificates \$800,000, accounts receivable \$2,015,122, and inventories \$4,954,048. Current liabilities totaled \$2,942,334. Investments in affiliated companies were carried at cost of \$967,497, although the aggregate book value of such investments at the end of June, 1947, was \$1,874,193 in excess of the cost figure.

Fixed assets were carried at net depreciated value of \$1,458,647 at the close of the fiscal year. Total assets amounted to \$12,936,735.

Trends In Finance and Business

(Continued from page 10)

power — developed by atomic fission — can be supplied experimentally, if not economically, within a few years. Whether substantial amounts of useful atomic power will become available in 1965, 1975, or 2000, the GE scientist believes, still depends upon future technological, economic, political and international developments.

One thing is almost certain, however. According to Dr. Suits, when atomic power plants finally do become practical, they are likely to solve man's old problem of "eating one's cake and having it, too." The reason is that atomic plants probably will be able to create more nuclear fuel than they use while they are generating power.

« « » »

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to which most Americans look forward when they reach retirement age. Two out of every three of them want to continue at some useful work as long as they are physically able; nearly half look forward to doing some kind of community or public service work, according to a survey of more than 3,000 policyholder families by Northwestern National Life Insurance Company.

"If you knew right now that you would be financially able to retire when you reach age 55 or 60, how would you expect to spend your retirement years?" the company asked.

Approximately a third—32 per cent—of the respondents answered that they would continue in their present occupations just as long as they could do so, and would only start living on their retirement income when no longer able to support themselves and their dependents.

Another 33 per cent of the policyholders answered that they would use their retirement income to "ease up" a bit in their regular occupation and have more free time to devote to other activities, such as religious and community work, study and self-improvement, favorite hobbies, etc. Many in this group would shift from their present occupation to some other line of work or to a money-making hobby. Farming, gardening, raising chickens or "fancy" livestock, and operating a few tourist cabins were activities most frequently mentioned.

Only the remaining 35 per cent felt that they will want complete freedom and leisure in their autumn years. Fish-

ing and hunting are the favorite recreations of the greatest number, with gardening, woodworking in home workshop, photography, and golf coming in order.

Almost half—47 per cent—of the entire sample group of policyholders want time to do some form of public or community service, preferably with children or teen-agers. Boy Scouts, Girl Scouts, YWCA, YMCA, bowling clubs, Big Brother organizations, nursery schools, and child welfare activities most frequently mentioned as those to which the respondents want to devote time and energy.

Older workers are more determined to continue in their jobs after age 60 than are the younger ones, the report shows—only 28 per cent of those now under 40 want to continue work beyond retirement age, while over 30 per cent of those over 40 do not want to retire as long as they are physically able to continue working.

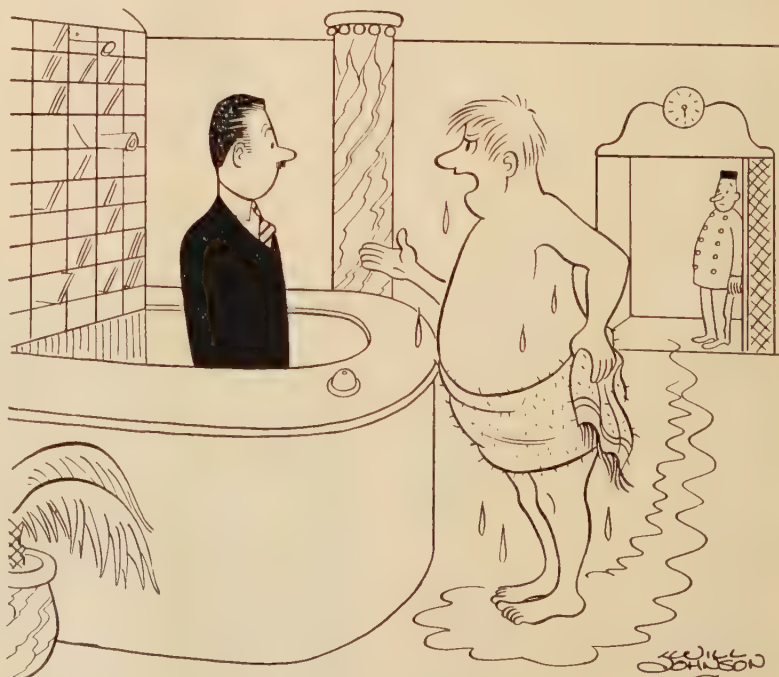
« « » »

**Steel Industry
Shoots For New
Non-War Records**

The steel industry is booming along—production wise—apparently intent upon setting

several new records this year. Production during the first half of 1944 was higher than ever before in peacetime. The six-month total of 43,000,000 tons could have been increased by at least another 1,600,000 tons, the American Iron and Steel Institute believes, had coal supply not been interrupted in March and April.

The average operating rate of steel



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furnaces during the first half of 1948 was 92 per cent of capacity or 11½ points under the first half of 1947. The fact that more tonnage was produced at the lower operating rate reflects, of course, the steadily expanding capacity of the nation's steel mills. Steel ingot production in May set a new peacetime record for that month at 7,500,000 tons. Electric furnace production of steel likewise set a peacetime record for the same month at 405,786 tons.

The Steel Institute believes that if the same production level can be maintained through the latter half of the year a number of peacetime records will be broken. For example, about 33,000,000 tons of steel products went to users from January to June. A continuance of that rate through the remainder of the year would bring total shipments to about 66,000,000 tons, an increase of 3,000,000 tons over the 1944 peak.

Sheet and strip shipments during the first half were in the neighborhood of 9,800,000 tons, close to one-third of the total steel shipped. At that rate, approximately 19,600,000 tons for 1948 would exceed the record of 18,359,000 tons shipped last year.

« « » »

**This Is Really
New—A Non-Slice
Set Of Woods**

A California company with the apt name, Fearless Manufacturing Company, is bent upon making some extraordinary changes in the venerable game of golf. The

trouble with the average duffer who spends most of his time in the rough is that his clubs are only a slight scientific improvement over the bent sticks with which pre-historic man banged rocks around the ground. They are obviously unbalanced, says Fearless, because the striking head is off-set from the center of the shaft.

As logical as today's golf club, the company further contends, would be a hammer with the head off-set on to two inches from the handle or a baseball bat with the center of impact zig-zagged off from the center of gravity.

This iconoclastic, but nonetheless logical, reasoning provides the background for what now emerges as the Fearless Scientific Golf Club, a shocking affair which has its driving head directly on the end of the shaft and the center line of the shaft intersecting the line of impact. With a Fearless Scientific Golf Club, the company declares the golfer will no longer find a tendency to hook or slice caused by the shaft twisting because of unbalanced weight. Also, the new club will tend to eliminate the abnormal tension required to control an unbalanced club.

Fearless Manufacturing, in its effort to improve the game, is introducing the new woods with laminated plastic heads and steel shafts in sets of number one, two, three and four clubs. The Professional Golfers Association of America has given the idea its nod and has approved the club as meeting association regulations.



"And if you'll refer to chapter eight . . . page 164 . . . you'll notice it states you are industrious, non-cannibalistic and very gracious people."

Here, There and Everywhere

(Continued from page 8)

Meanwhile, the demand for automatic gas ranges built to the industry's "CP" standards have been running 242 per cent over 1947. The association attributes the sales boom to the industry's \$8,000,000 promotional campaign.

Economics On The Half Shell—All that's needed to convince people that rising prices mean cheaper dollars is a machine to prove it and along comes a New York University professor, Carl E. Gregory, with just such a Rube Goldberg contraption. The professor calls his huge, dial-face mechanism an "Econometer." The left side of a center-balanced shaft rises when liquid, representing such economic forces as production and imports, is permitted to leave a controlling glass container. Thus, an arrow on the rising end of the shaft creeps up a scale denoting rising prices, while an arrow on the other end, similarly controlled by a fluid container, moves downward on a scale indicating declining dollar values. Prof. Gregory will use the device to provide graphic background for lectures before university economics classes and civic groups.

Stainless Steel Gains—Production of stainless and heat resisting steels has been increasing rapidly during the last decade. The American Iron and Steel Institute reports that nine years ago domestic production of these steels totaled 180,000 tons of ingots. In 1947, output rose to 520,000 tons of ingots and finished stainless steel products set a record at 333,000 tons. The first stainless steel was developed by an Englishman in 1913 after he had undertaken to add chromium to steel to provide better cannon linings. Today, many other constituents are added to steel: molybdenum and tungsten for increased strength at high temperatures; columbium and titanium for greater corrosion resistance; aluminum and silicon to retard scaling; and phosphorus, selenium and sulphur to improve the machinability of steels.

Real Estate Buying Up—Purchases of real estate by U. S. life insurance companies in the first half of 1948 totaled \$133,000,000, an increase of 41 per cent over purchases in the first half of 1947, according to the Institute of Life Insurance. Nearly two-thirds of the real estate acquired was commercial and industrial properties on long-term lease, purchased as an investment. Such purchases were \$86,000,000, about half again as much as in the first half of 1947. Total real estate holdings of the life com-

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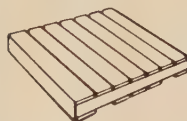
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panies at mid-year were \$963,000,000, of which \$302,000,000 was non-housing real estate held as an investment.

• **Air-Conditioned Community**—An entire 16-acre shopping center in a new multi-million dollar housing project will be centrally air-conditioned in the first such project of its kind in the nation. Stores, professional offices and a motion picture theatre at Fresh Meadows, Long Island, New York will be cooled by chilled water, piped through more than a mile of 12-inch pipe under a 100-pound head pressure. With the centralized system individual stores will not require compressors and other expensive cooling machinery.

• **Brood Over Deficiencies?**—The trouble with many people, including businessmen, declares Prof. A. C. VanDusen, Northwestern University psychologist, is they brood too much over their shortcomings and underestimate their abilities. Anyone, if he worries enough about it, will find someone more capable than himself in any business or profession, the Northwestern man explains. Hence, the real key to mental stability is to balance shortcomings against obvious abilities. "Nobody can be 100 per cent, be realistic in assessing yourself, and you will live a more effective life."

• **Synthetic Rubber For Cans**—Synthetic rubber has replaced 78 per cent of the natural rubber formerly used in sealing compounds for tin cans, according to an American Can Company research report. The company points out that prewar experiments permitted a gradual shift to synthetics that has now become permanent.

• **Old Fiber, New Use**—Ramie, one of the world's oldest vegetable fibers and one that has tantalized textile engineers for over a century in their efforts to find a practical end use for the material, is now being produced as packing for reciprocating pumps by the United States Rubber Company. Ramie is particularly suitable for packing cold water and brine pumps because its high tensile strength and ability to absorb and retain lubricants, minimize abrasion and prolong wear. Company engineers say ramie is highly resistant to fresh or salt water, brine or cold oil. Its tensile strength, they add, is unaffected by moisture and, in fact, increases slightly when wet. The fiber is produced from a grass native to the Orient and now being grown in Florida. Orientals use Ramie for clothing and decorative fabrics.



INDUSTRIAL DEVELOPMENTS

IN THE CHICAGO AREA

INDUSTRIAL developments in the Chicago industrial area in August, 1948, totaled \$8,653,000, compared with \$17,025,000 in August, 1947. Total expenditures in the first eight months of this year were \$89,001,000 compared with \$123,118,000 for the same period in 1947.

Goodman Manufacturing Company, 4834 S. Halsted street, is constructing a two-story top addition to its office building and a one-story expansion of its machinery assembly building.

National Tube Company, Gary, Ind., a subsidiary of the United States Steel Corporation, has started construction of a new seamless tube hot mill at its Gary Works.

Continental Paper Grading Company has purchased a $6\frac{3}{4}$ acre site at 35th street and Shields avenue on which it will construct a plant.

Taylor Forge and Pipe Works, 4735 W. 14th street, Cicero, Ill., is constructing a one-story brick plant addition which will contain 15,000 square feet of floor space.

Hannifin Corporation, 1101 S. Kilbourn avenue, manufacturer of precision hydraulic equipment, will construct an additional unit at its plant.

Thompson Wire Company, Franklin Park, has several one-story brick additions under construction. The additions will provide 16,000 square feet of floor space.

Tractomotive Corporation, Deerfield, Ill., which is nearing completion of its factory for production of road building equipment, will start construction immediately of a 20,000 square foot addition to the plant.

Plastic Molded Products Company, 413 N. Franklin street, is constructing a plant at 6040-50 N. Pulaski road. The new plant will contain approximately 8,000 square feet of floor area.

Cuneo Press, Cermak, Canal and Grove streets, is planning construction of another unit at 2400 S. Grove street. The new structure, which will be one and three stories, will cover a floor area of 132,000 square feet.

General Card Company has purchased the plant which it occupies at 1300 W. Jackson boulevard.

American Decalcomania Company, Inc., 4334 W. Fifth avenue, has started construction of a two-story addition to its plant.

Geneva Modern Kitchens, Inc., Geneva, Ill., manufacturer of steel kitchen cabinets, stainless steel sink tops and accessories, has started construction of a one-story addition to its factory.

Robert O. Law Company, 2100 N. Natchez avenue, book printer and binder, is constructing a 30,000 square foot addition to its factory.

Palmer Specialty Company, 2251 S. Michigan avenue, has purchased a building containing 80,000 square feet of floor space at Dearborn and 22nd streets. Alfred L. Miltenberg and Company, brokers.

Saunders and Company, 2509 W. Cermak road, pipe and valve fabricators, has purchased the two-story plant at 3441 S. Lawndale avenue. First Realty Company, brokers.

Mayfair Molded Products Company, 4440 N. Elston avenue, plastic molder is building an addition to its plant.

Available Truck Company, 2501 N. Elston avenue, is constructing a 50,000 square foot addition to its plant. The company manufactures trucks, truck tractors, crane carrier chassis, fire truck chassis, buses and heavy-duty automotive equipment.

LaSalle Glass and Mirror Company, 730 N. LaSalle street, is constructing

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a four-story building at 144 W. Superior street, which will house the company's factory, offices and show-room.

"Back To School"

(Continued from page 20)

was inaugurated to bring educational opportunities to all employees of the company. The IBM School at Endicott, N. Y., housed in its own building, conducts classes in technical subjects ranging from shop subjects to advanced developments in such new engineering fields as plastics and electronics. The school also has courses in cultural and popular fields, such as languages, interior decorating, gardening and landscaping, photography, home planning, music theory, art appreciation, and current affairs. A year ago, correspondence courses were inaugurated for employees in plants or in the field who could not participate in classroom work.

General Motors Corporation's contribution to employee education is highlighted by the General Motors Institute at Flint, Mich., where men of outstanding ability from the company's far flung plants are given special training. The high level at which the school functions is indicated by the fact that graduates of the engineering course are awarded bachelor of science degrees.

Western Electric Company's huge Chicago works, employing more than 30,000 and widely known for progressive employee relations activities, has long placed emphasis on education. A full-time "principal" directs this work. The company makes offices available after work hours for use as classrooms, and provides advice and assistance in arranging for courses and instructors. Otherwise the education program is largely in the hands of the employees.

The subjects to be explored by Western Electric groups are chosen by the students, and they pay a small fee to compensate the instructor, usually a member of the company's staff. Since Chicago has extraordinary educational facilities in its many universities, high schools, trade schools and other institutions of learning, Western Electric often counsels its employees to enroll in one of these schools. In the Fall semester last year, 214 Western Electric employees were enrolled as students in the evening school of Northwestern University—the largest enrollment from any single company.

Abbott Laboratories has had a successful and growing education program for 15 years. Abbott's program is definitely directed toward encourag-

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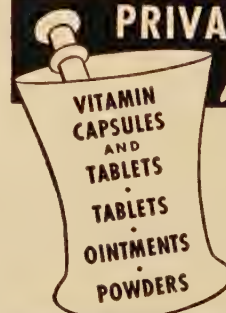
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ing study in fields related to the employee's career with the company. Taking advantage of the fact that Lake Forest College is nearby, Abbott sponsors evening courses at the college in pharmacy, chemistry, and business administration. The company pays half the tuition for those who make passing grades. At the plant Abbott makes available after-hour courses in typing, shorthand, bookkeeping and languages, with the students paying a small fee which goes as compensation to the instructors obtained from local high schools or business schools. More than 400 Abbott employees were enrolled in one or more of the courses last year.

Other companies in and around Chicago sometimes take the stand that because Chicago has almost unlimited evening school facilities, employees with ambition can and will get whatever advanced schooling they need, without help from the employer. The enrollments in evening schools seem to bear out this contention — Northwestern's for example was 13,000 last year, and the Illinois Institute of Technology had 4,500 evening students as compared with 3,500 attending daytime classes. Nevertheless, some companies will pay a portion of the tuition for those employees who make passing grades in courses related to their work; a few will pay the full fee if the employee gets an A.

The Continental Illinois National Bank and Trust Company of Chicago has a broad internal program of education and training for the development and advancement of its personnel, but in addition the bank provides liberal financial assistance for members of the organization who undertake outside studies related to their work. The bank pays well over half the tuition for the completion of courses at local universities, at the Chicago chapter of the American Institute of Banking, or at certain specialized schools. The bank also pays the expenses of persons selected for advanced study at the University of Wisconsin where the Central States Conference, composed of the bankers associations of 16 middle western states, sponsors a course that involves three Summer sessions of two weeks each and two years of correspondence study. Representatives of the Continental Illinois bank are enrolled, too, in the Graduate School of Banking established by the American Bankers Association at Rutgers University a number of years ago.

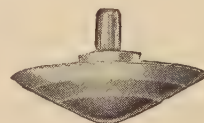
Many other types of business, through their trade associations, are adopting the device of sponsoring



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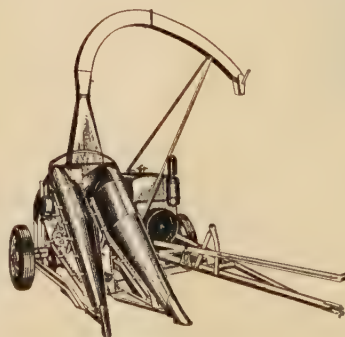
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special curricula in colleges and universities. Examples are the undergraduate courses in hotel management at Cornell, and the restaurant administration program at the University of Chicago. The latter program was developed in cooperation with the National Restaurant Association, which made a gift of \$100,000 to the university in 1943 to launch the project.

The Investment Bankers Association of America, through 18 regional groups, has set up special training courses in 22 cities in cooperation with universities. While the courses are open only to employees of IBA member firms, the classes are conducted by university professors, with special lectures by investment bankers recognized as authorities in particular branches of their business.

Manufacturers are utilizing cooperative programs increasingly to obtain engineers. Northwestern University's Technological Institute, for example, now has cooperative arrangements that combine studies for degrees in chemical, civil, electrical, industrial, and mechanical engineering, with practical work experience. The curricula cover five years, including 18 months during which the student works full time in a plant approved by the Institute. The Illinois Institute of Technology has had a cooperative program for mechanical engineering students since 1936, and this Fall will inaugurate a similar arrangement in food technology to meet the great demand for engineers in that field.

Allis-Chalmers Plan

The extension division of the Illinois Institute of Technology has developed a remarkably useful cooperative program that brings the school's teaching talent to the student. Since 1944, the Institute has had such an arrangement with the Allis-Chalmers Corporation. The school sends instructors to the company's plant at West Allis, Wis., one night a week, to conduct graduate courses for Allis-Chalmers engineers. Eighty engineers were enrolled last year, some in two courses, and the first master's degree was awarded last Spring. Some of the students are expected to continue until they receive doctor's degrees.

The extension program is extremely flexible and has been used to make the school's facilities available to many other companies, some as far distant as Peoria, Ill., where classes are held for technicians of the Caterpillar Tractor Company. Courses of study are shaped to meet the needs of the particular company and may consist of refresher courses in mathematics

or engineers who have become rusty and are too dependent on formulas, or highly specialized courses in electronics, heat treatment, fire prevention engineering, or practically any other technical subject.

The school likes these extension arrangements, not only because they are a real service to industry and to spread the good name of Illinois Tech, but also because the instructors get valuable experience from direct contacts with industries and their problems.

The progress of adult education programs is being watched closely by educators and by business executives. Managements that have gone in for education in a big way are uniformly enthusiastic about the results. E. H. Reed, manager of the education and training department for International Harvester, declares that industry can be so effective in a national program for adult education that the opportunity must be regarded as a social responsibility. Even if through training the employee fails to better his job immediately, his is the tangible gain, because he has resumed the process of learning," Mr. Seyfarth says. "That gain is all his; he takes it with him wherever he goes. Society also gains. And the industry which stands the cost for the training gets a better satisfied, more straight-thinking employee."

Wage Plan

(Continued from page 21)

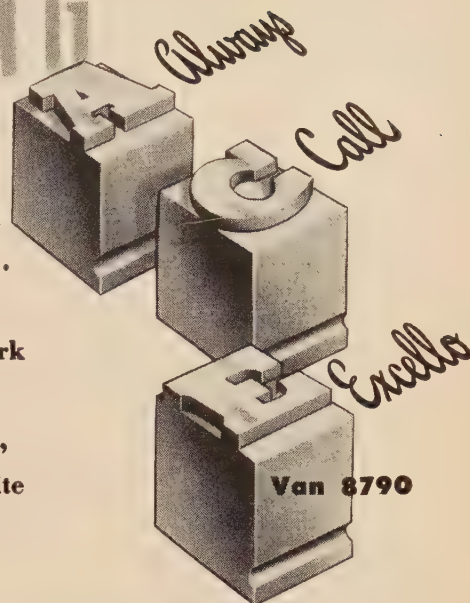
These points: (1) Automatic pay raises when living costs go up sweep away the barriers to further inflation. (2) Similarly, pay cuts in parallel with living costs during deflationary periods would tend to quicken the deflation, perhaps disastrously. Also, if floors are put under permissive pay cuts, as in the G. M. agreement, a depression period could bankrupt companies which would have rigid wage factors. (3) There is no assurance that the living cost index may not be somewhat warped under labor pressure in Washington.

In addition, other companies have the most telling argument against the index approach. This argument stems from the inflexibility of wage variations during and since the war.

At the start of the war, the auto industry may have been the very highest paying segment of all mass manufacturing activity. Electrical manufacturing and steel, for example, were in definitely lower ground. When companies in all these three industries raised wages an equal number of cents, to continue the illustration, the per-

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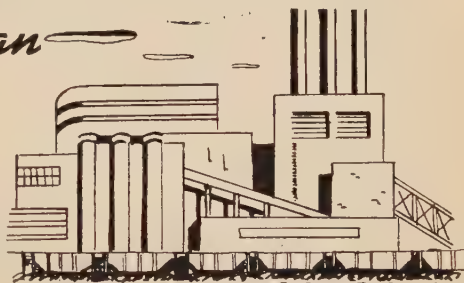


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centage advance in autos was not notable as in the other fields.

That process, continued up to today has resulted in the fact that auto companies (as in the case of General Motors) needed 8c advances or so to balance percentage deficiencies in living cost advances since 1940, while other companies needed less, or nothing at all. In numerous cases, employers "owed" pay reductions to employees to balance the living cost books.

Such concerns may have thought initially that they were in good position when G. M.'s living-cost basis settling its wage accounts attracted much attention. They soon found out differently. The newspapers played up the 11c aspect of the G. M. raise (11c in living cost adjustment, plus 3c annual improvement factor), and did not go into too many details. Companies which tried to explain that they owed little or nothing under the formula found themselves in hot public relations water, and in trouble with their local unions as well. The idea left them definitely sour.

Bargaining Trends

The year 1948 brought with it other bargaining approaches and objectives of interest and significance. The idea of social insurance made noteworthy gains in the current year's bargaining season: it begins to appear that protection for the contingencies, largely paid for by employers, may become a customary part of the wage fabric. Talk of pensions persisted, pointing toward more determined drives for them next year by the vertical unions. Paid holidays became less uniformly accepted, largely due to difficulties in administering them and setting up the conditions under which they are payable.

But these trends were definitely overshadowed by the emergence of the living-cost-wage-boost plan, whether it finally is fully accepted or completely rejected. Already the idea has significantly affected the wage arrangements of the nation's industry in that it has severely shaken wounded the blanket pattern raise concept, even if it has not taken a place as a fully fledged, accepted method of settling wage demands.

Too, it has introduced a new factor in the wage bargaining problem that was becoming thoroughly stereotyped. It has proved that there are ways, and ways, and different ways toward an end—a finding which may help to restore some measure of optimism and new thinking to a field in which the atmosphere had lately seemed without much hope, the ideas dreary, and the conclusions inevitable.

TRANSPORTATION and TRAFFIC



THE Interstate Commerce Commission, in its final order in Ex Parte No. 166, authorized an estimated \$67,400,000 increase in railroad freight rates and charges, effective August 21. The final order makes permanent the 30 per cent interim increases on commodities generally within Eastern territory; 25 per cent within Southern territory and Western Trunk Line Zone 1 territory; 25 per cent interterritorially between Southern and Western territories and between those territories and Eastern territory; and 20 per cent within Western territory other than Western Trunk Line Zone 1 territory and other points in Western territory was reduced to 22½ per cent in the final order. The commission's findings modify the increases and maximum amounts on certain specified commodities which result in both increases and reductions from the previous basis. As an example, coal rates were increased 20 per cent with a maximum of two cents per cwt. instead of the previous increase which ranged from 20 cents to 34 cents per ton, depending upon the base rate. The maximum increase on iron and steel was boosted from the previous 14 cents per cwt. to 16 cents per cwt. Reductions were made in the maximum increases on plaster, lime and cement. This final order of the commission ends more than a year of litigation in the Ex Parte No. 166 proceedings. The carriers' original rate increase petition was filed on July 3, 1947, and was slightly amended on July 23, 1947. A second petition boosting the original demands was filed September 5, 1947, and was based on a wage award granted railroad employees on September, 1947. A third petition asking for still further increases to compensate for advances in the costs of materials and supplies, was filed on December 3, 1947. During the pendency of the proceedings three interim increases were authorized by the commission. The first such increase became effective October 13, 1947, and amounted to 10 per cent on total freight charges. This was superseded on January 5, 1948, by a 20 per cent increase in freight charges. The third

interim rate hike became effective May 6, 1948, and substituted the following increases in freight rates for the previously authorized 20 per cent increase in freight charges: 30 per cent within Eastern territory; 25 per cent within Southern territory; 25 per cent from, to and within Western Trunk Line Zone 1 territory; 20 per cent within Western territory, other than Western Trunk Line Zone 1 territory; and 25 per cent on all interterritorial traffic. The railroads are reported to have asserted that the increases authorized by the commission in its final order are inadequate to meet their requirements and that a petition for further increases in freight rates will be filed shortly.

Export-Domestic Mixed Carload Rule Approved: The petition of the Port of New York Authority for suspension of a tariff rule permitting mixed carload shipments of export and domestic traffic in the same car at the rates applicable to each type of traffic was denied by the Interstate Commerce Commission. The rule, published in tariffs of the Southern Ports Foreign Freight Committee, became effective July 25 and applies on shipments to Gulf and South Atlantic ports. The Chicago Association of Commerce and Industry urged the commission to permit the rule to become effective stating that it was necessary and desirable to permit the expeditious forwarding of freight.

Permit Use of Refrigerators for Box Cars to Oregon and Washington: In order to reduce the empty west-bound movement of refrigerator cars, the Interstate Commerce Commission has authorized the substitution of these cars for box cars on non-perishable shipments destined to points in Oregon and Washington. The action was taken through I.C.C. Service Order No. 822 which became effective September 1. The order provides that on shipments on which the carload minimum weight does not vary with the size of the car, the carrier may furnish up to three refrigerator cars in lieu of each box car ordered. On shipments where the carload minimum weight varies with the size of the car, the carrier may furnish two re-

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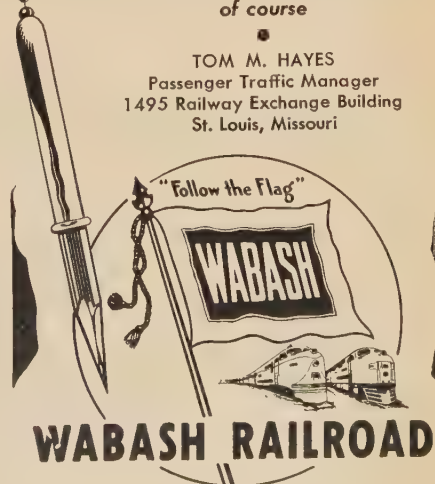
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refrigerator cars for each box car ordered of a length 40 feet, 7 inches less, or, three refrigerator cars for each box car ordered of a length over 40 feet, 7 inches, but not over 50 feet, 7 inches. In all cases the carload minimum weight on the shipments will be the same as would have applied had the shipment been loaded in a box car of the size ordered.

Purpose Minimum Weight Package: A proposal to establish a rule in the National Motor Freight Classification to the effect that each single piece or package of freight is subjected to a minimum weight of 100 pounds, except when loaded by the consignor and unloaded by the consignee, is being considered by the National Classification Board. Also under consideration by the board is a proposal to increase the minimum charge on each shipment to \$2.50. Hearings on the proposals were held in Detroit on August 24, New York City on August 26 and Washington, D. C. on September 2.

On-Time Package Car Performance Sets 4-Year High: The on-time performance of package cars departing from Chicago during June exceeded any month since July, 1944, according to statistics compiled by The Chicago Association of Commerce and Industry. During the month, 62 per cent of the 23,708 cars reported were placed for unloading at destination on schedule. Of the cars late, 24.1 per cent were one day late; 7.8 per cent were two days late; 3.2 per cent were three days late; 1.5 per cent were four days late; and 1.3 per cent were five or more days late.

Express Rates Extended by I.C.C. The Interstate Commerce Commission has authorized the Railway Express Agency, Inc. to continue in effect their present less-than-carload rates and charges until further order. The rates, which were established for a period of one year, were to have expired October 25. As the Ex Parte No. 163 proceedings will not be completed before that date, the agency requested that the expiration date of the rates be postponed. Further hearing in Ex Parte No. 163 is scheduled to be held in Washington, D. C. on September 20.

Motor Rates to East Increased: Motor carrier class rates between Central and Eastern territory were increased 10 per cent on August 21 through tariffs published by the Eastern Central Motor Carriers Association. On shipments weighing less than 5,000 pounds, the rates less the 20 cents per cwt. arbitrary were increased by 10 per cent and to the result was reimposed the 20 cents arbitrary.

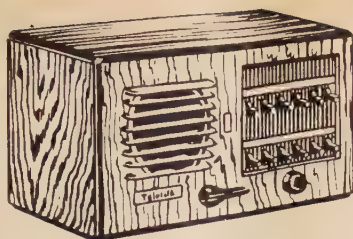
Canadian Railroads Ask 20 Per Cent Freight Rate Increase: The Rail-

ay Association of Canada has ap-
ied for a 20 per cent increase in
eight rates, 15 per cent of which
ey request be granted immediately
provide interim relief to enable
em to meet recent wage increases.
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requested on shipments of coal and
ke on which the carriers are seek-
ing a 10 cents per ton interim increase
and a 15 cents per ton permanent in-
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tributed to subscribers. The 375 page
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tions applying from Chicago to every
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governing mail service to all foreign
countries are also published in the
guide. The new guide eliminates the
necessity of referring to a conversion
table to determine the current express
rates and rates.

Motor Overcharge Rule Appealed:
The disposition of the CFA-Central
Committee of Central States Motor
Freight Bureau in adopting a rule pro-
viding a two-year time limit for filing
overcharge claims, was appealed by
The Chicago Association of Com-
merce and Industry. In view of the
appeal the carriers have agreed to
reconsider the matter at a hearing to
be held in the Hotel Sherman, Chi-
cago, on September 14. The associa-
tion's appeal stated that the establish-
ment of a tariff rule limiting the time
within which overcharge claims must
be filed against carriers, while at the
same time continuing the much longer
period provided by state statutes for
collecting undercharges against ship-
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New Products

Truck Loading Leveler

Loading and unloading trucks and trailers would be simpler if all truck bed heights were the same. Instead, they vary up to 12 inches and, furthermore, they move up and down with the load weight. To meet this problem, the Rotary Lift Company, 1054 Kansas St., Memphis, Tenn., has introduced a new floating dock called "Leva-Dock," that can be quickly raised or lowered by a hydraulic jack to join the truck bed, making steel plates or bridge ramps unnecessary. The hydraulic system permits the front end of the platform to travel up or down with the bed as truck springs are compressed or relieved during loading or unloading.

Pre-fab Home Closets

A new twist in the trend toward factory-built homes is the pre-fabricated efficiency closet now being mass-produced by the Mengel Company, Louisville, Ky. The idea, according to the company, is that pre-fab closets save building costs because they are less expensive than conventional stud and plaster installations, they save space (three square feet of floor area per unit), they can be used to form room walls and can be installed quickly. Closets are shipped knocked-down in standard two, three, and four foot widths.

Quick-Setting Glue

A new resin-base glue that sets at room temperature (75° F.) in ten min-

utes has been developed for the wood working industry by Timber Engineering Company, 1319 Eighteenth Street, N.W., Washington, D.C. "Copolymer 10" was developed by a research committee of the National Lumber Manufacturers Association which undertook to find a wood adhesive suitable to production line requirements. The new glue is water resistant, non-staining, requires no additional equipment and develops shear strength within ten minutes of approximately 500 pounds per square inch.

Coin Adapter

The Miller-Harris Instrument Company, 836 N. Fourth St., Milwaukee, Wis., has introduced a packaged coin collector that will convert a variety of automatic electrical appliances to coin operation quickly and inexpensively. The unit attaches either to the machine or a nearby wall, incorporates a conventional slug-rejector mechanism, a timing device and an electrical-interlock system that returns coins if current fails, but prevents multiple operations on one coin.

Quick Letter Opener

A rapid, desk-top letter opener designed primarily for smaller concerns is now being manufactured by Pitney-Bowes, Inc., Stamford, Conn. Press a lever on the new "Model LH," and a guarded spiral cutting blade whisks a thread-like edge from envelopes as quickly as they can be fed in. A self-adjusting guard roller enables the 7½-pound machine to take mail of almost any size or thickness.

Packaged Chimney

The Van-Packer Corporation, Field Building, Chicago 3, Ill., is now mass-producing a packaged, masonry chimney that is light enough to be suspended from floor or ceiling without a foundation. Underwriters' listed for all fuels in one and two-story houses, the packaged chimney is shipped with all parts, including joint cement for immediate installation. It is said to be safer than a brick chimney and to cost only half as much. The company is currently producing 60 units daily and assures immediate delivery.

"Tailor Tacker"

The familiar picture of the housewife, mouth crammed with pins, fitting a paper sewing pattern to fabric may now become a thing of the past, for John Dritz and Sons, 79 Madison Ave., New York City, has developed what it calls a "Tailor Tacker." The device

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oks like a stapler, but instead uses chalk to block out a pattern quickly from paper to fabric. Chalk colors are changed for various fabric shades.

New Electric Plug

An innovation in electric prong plugs has been placed on the market by Academy Electrical Products Corporation, 4849 Broadway, New York City. Made of Plaskon, the new plug requires no stripping or slitting of wires, no screws, soldering or crimping. Instead, when the prongs are squeezed, the inner unit slides out. Insulated wire is inserted through the back of the cover, then into the inner unit where another squeeze of the prongs pierces the insulation and makes contact. The back is then slipped on and insulation is complete.

Electric "Trouble-Shooter"

Costly machine breakdowns can be greatly reduced, according to the Brinell Company, Granby, Conn., with the company's new model "Protectron," an electronic device that shuts off electric motor-driven machinery instantly when trouble develops, thus saving the loss of tools, dies, and equipment. Protectron is said to be quickly adjustable for varying loads or for changes from job to job. When desired, it spots oversize stock, dull tools, "doubling" of material, and other tool trouble.

Water-Repellent Wire

A new electrical wire with rubber insulation that actually improves when soaked in water has been developed by

the United States Rubber Company, New York City, for use in homes, factories and offices. Designed especially for wiring damp basements and the like, the new wire is coated with high purity natural rubber latex. Underwriters' tests indicated that when the wire was immersed in water for 24 weeks, insulation resistance increased almost five times. In addition, the new wire is said to incorporate improved tensile strength and elongation.

Rotating Can Limit Switch

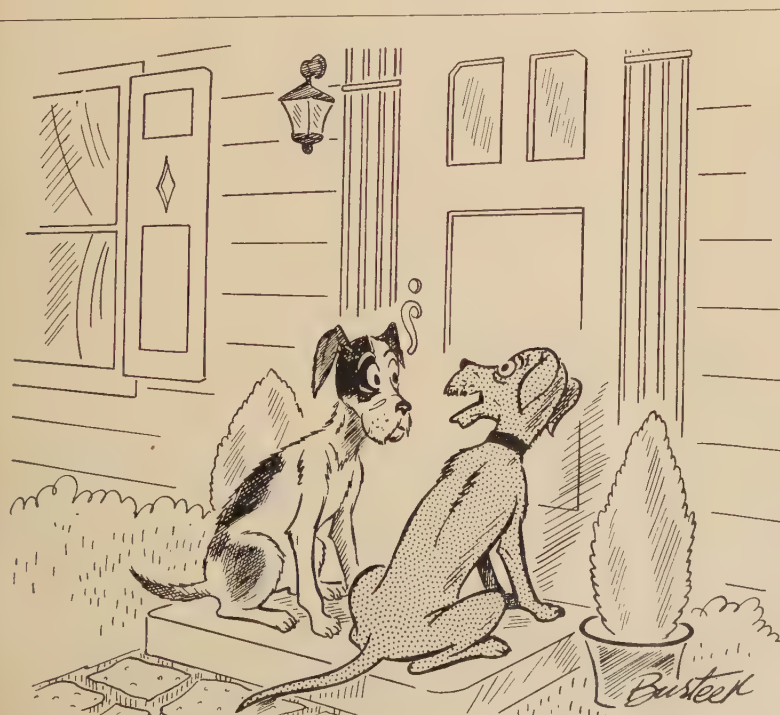
Allen-Bradley Company, Milwaukee, Wis., has introduced a new heavy-duty rotating cam limit switch which closes up to 12 circuits at any position of the actuating cam shaft. Contactors are individually detachable, and the shaft and cam assembly is easily removed for adjustment.

Powerful Bug-Killer

A strong new non-staining insecticide, said to be ten times more effective than DDT on a wide assortment of insects, has been developed by the Processed Chemical and Coatings Corporation, 33 N. First Street, Brooklyn, N. Y. The powerful punch results from the use of "Technical Chlordane" described as less toxic to humans and warm-blooded animals than DDT. The insecticide, called "CD-68," is said to remain potent for from five weeks to two months after application.

Versatile Ventilator

A new room ventilator, designed for use in homes and offices, that not only air-conditions but also screens out pollen, dust, smoke, and minute bacteria,



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and absorbs all odors, has been introduced by the Excel Heating and Air Conditioning Company, 3715 Belmont Ave., Chicago, Ill. Called "Health Trola," the unit is said to provide "double filtration" eliminating 82 per cent of air germ content. It is especially recommended for hay fever and sinus sufferers.

Window-Washing Device

The Industrial Products Company, 2808 N. Fourth St., Philadelphia, Pa., has developed a safety platform for window washers and painters that permits motion free of harnesses. The platform rests on the outer window sill and is held in place by a steel bar running the length of the window and secured against the inside wall with rubber protection guards. The unit can support 800 pounds and has a 34-inch-high guard rail.

Magnetic Salesman

The personal point-of-sale technique has been lost in today's giant supermarket, but with a new tape recording device, called "AudiAd", manufacturers can verbally advertise their soap or cereal right from the grocery shelf. It works this way: when a housewife walks up to the aisle, an electric eye picks up her presence, activates the recording device hidden in a display stack and a voice says, "Now here's a real bargain, madam . . ." AudiAd has a variety of similar applications; for

example, it can be stationed at a fact danger spot to warn approaching workers. The manufacturer is Magneco Inc., 360 N. Michigan Ave., Chicago, Ill.

Safety Cables For Mines

The United States Rubber Company, New York City, has developed a yellow electrical cable which is expected to increase mine safety because it can be seen plainly in the dark. Sparks resulting from damaged electrical wire are a leading cause of mine explosions, the company points out, adding that the new yellow jacket will enable miners to see wires and keep them out of danger more easily than the conventional black cable.

Robot Typewriter

Companies which send out many identical, but personalized, letters each day may simplify their typing job through the use of a new vacuum-operated "Tandem-Typer" which simultaneously operates two, three, or a whole battery of electric typewriters. Introduced by the Robotyper Corporation, 18050 Ryan Road, Detroit 33, the new machine requires no master record; each typewriter produces an identical original with carbons if desired. It is recommended for bulletins, reports, form fill-ins, and personalized form letters.

Timing Security Purchases

(Continued from page 18)

dividing the channel into five equal zones, and by creating a sixth and seventh zone in the area above and below the channel, Keystone has created the basis of its formula plan. The middle zone of the channel is considered the normal zone, with the investment fund half in stocks and half in bonds. Various rules are outlined for buying and selling as stock prices move from one zone to another. As prices rise, the fund is gradually shifted into bonds, and as prices fall stocks are purchased.

"Normal Zone"

Under the Keystone plan the center or normal zone is changed each year to conform with the long-term secular rise in the Dow-Jones average. In 1948, for example, the middle zone is considered to be the area between 173 and 198 in the Dow-Jones average. In this zone a 50-50 stock-bond ratio is maintained. In one version of the plan, stocks are gradually sold and

bonds purchased as the averages rise until, when the industrial average reaches 262, the fund is 90 per cent in bonds and 10 per cent in stocks. On the way down, the fund reaches 90 per cent stocks and 10 per cent bonds when the average hits 130. Alternative versions are also available that culminate in 80-20 and 70-30 ratios.

Keystone has calculated the results of starting a fund based on their plan in each year since 1918, and the interim results of each of these funds are also shown. No matter what year a fund had been started during the last 30 years, under the plan every one would now show a profit except for a fund started January 1, 1946 which would show a 2 per cent loss at the start of 1948. The gains range up to more than four times the original investment.

Altogether, Keystone has figured out the results for 465 different periods ranging in length from one to 30 years and starting at various times

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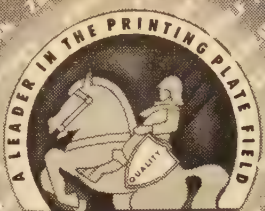
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from 1918 to 1947. Of these, 423 showed gains, 39 showed losses and three showed no change. (Most of those that showed losses were started in the late 1920's and ended in the early 1930's.) The 423 gains averaged 90 per cent on the original investment, while the 39 losses averaged 14 per cent. The Keystone figures were arrived at by using the Dow-Jones average for the aggressive side and cash for the defensive. If more volatile securities had been used, the gains (as well as the losses) would have been larger.

Institutional Users

One of the first institutional users of a formula plan was Vassar College, which adopted a plan in 1938 and applied it to a \$3,000,000 fund. At the time the Dow-Jones industrial average was 133.88. By the end of 1943 the industrial average was 135.89, up 1.5 per cent from Vassar's starting point. At the same time the \$3,000,000 fund had increased to \$3,710,758, or a 23.7 per cent growth. By the end of 1946, after the end of the wartime bull market, Vassar's fund had grown to more than \$4,000,000, and was up more than 38 per cent from the starting point.

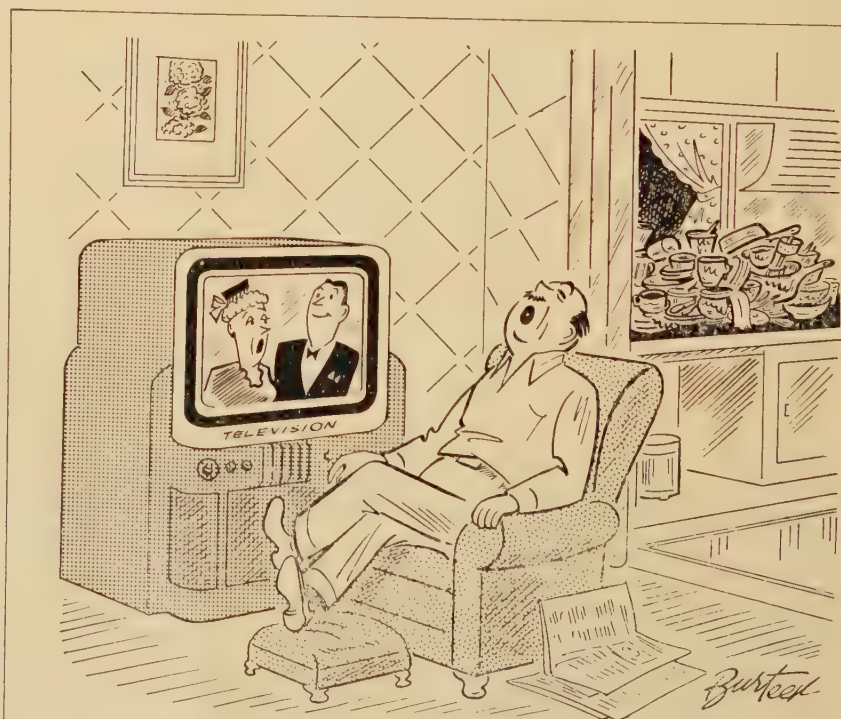
Other known users of formula plans include the American Board of Commissioners for Foreign Missions, Kenyon College, Oberlin College, Yale, Sheffield Scientific School, and Oglebay Norton and Company. Many users of formula plans, however, are disinclined to admit the fact. "Many

banks and other business institutions using formula plans seem to be ashamed to admit it," a Chicago banker remarked. "They seem to feel that their forecasting skill is called in question by their dependence on a mechanical method — even though they know that the method works better than forecasting." At least two Chicago banks have invested much time and money in studying formula plans, but neither will say whether the plans are in use in their trust divisions. One Chicago bank, at least, has worked out its own version of a formula plan. Some of the Chicago area educational institutions have also been investigating formula timing. A number of insurance companies also use formula plans.

Formula plans, of course, can solve only part of the investment problem. They can help solve the problem of timing purchases and sales, but they cannot tell the investors what securities to buy. Any investor with enough money to achieve sound diversification, however, finds timing a more vexing problem than selection. A small investor using a formula plan can achieve diversification with investment company shares.

Will Power Needed

Formula plans, also, are useless unless the investor has the will power to follow the plan. It is difficult to sell stocks when a bull market is clearly under way; it is just as difficult to buy them when prices seem to be falling sharply. If the formula device can force the investor to acc-



"Yes, indeed, my husband is the boss—oh, he's at home doing the dishes!"

According to plan, it has achieved a great deal.

Selection of the right securities is important, of course. A formula plan works if prices rise and fall; it will not work if the investor buys stocks that go down and stay down. Also, the one factor that might take a formula plan ineffectual would be permanent rise or decline in stock prices. If the averages went to 20, for example, and thereafter fluctuated between 10 and 30, a formula plan would be of little comfort; the same could be true if the averages rose to astronomical levels and remained there.

In general, however, expert investment men say that the average individual investor would be more successful following a formula plan than following his own hunches.

Most investment advisers warn against the adoption of a "ready-made" formula plan. They say each plan should be tailored to the individual, for each user has varying needs for income, capital appreciation, and security of principal. But no matter how a plan is chosen, if faithfully followed, it will do this: it will force some stock purchases when prices are comparatively low; it will force some profit taking at higher levels; it will remove guesswork from investment timing; and probably for the average investor it will allow more restful slumber, and less tossing at night.

What's Ahead For Business

(Continued from page 26)

through even to the end of this year. I've bet that they will.

3. Inventories—I've bet that manufacturers' inventories will move well this Fall. Maybe they won't. If they don't that will be an important adverse sign. The figures for this are in the monthly Survey of Current Business. Watch the figures on sales by manufacturers, on inventories of manufacturers and on their new orders, and see how they stack up relative to one another—whether the trends are in good adjustment or whether they are running adversely to the continuance of the boom. Watch also the relation of retailers' sales to inventories.

4. I have staked a good deal on the behavior of the federal budget. Surplus or deficit depends heavily upon the course of our international relations. If relations with Russia should strikingly improve, Congress would probably curtail its spending both for military preparedness and for the Economic Cooperation Administration. But I have assumed that the chances of relaxing the tension are basically not

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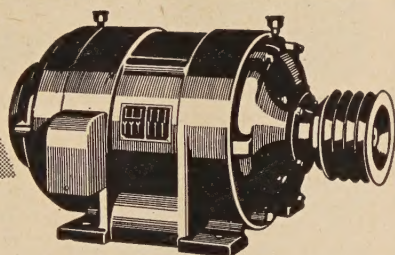
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good, that a shooting war is not an early prospect, and that we are going to be in a terrible spot for quite a long time. Admittedly in this and quick shifts in expectations may occur and, in short-run forecasting, expectations are crucial.

5. Watch also consumer indebtedness. It's growing rapidly. In absolute terms, it is at a new all-time high. It is not at a new high as a percentage of disposable income. Private indebtedness, in general, in our economy was absolutely reduced during the war period. As the federal debt expanded and in the process inflated private income, private debt first fell, then rose but has not yet risen in proportion to income. So by past yardsticks neither the consumer nor business is nearly as vulnerable to deflation as has been the case numerous times in the past at the crest of a boom. Nevertheless, either a sharp rise in consumer indebtedness or an accelerated rise in short-term debt by private business, I should consider as a danger signal.

U. S. Can Halt Boom

One more thing. The government could certainly stop this boom even while financing the European Recovery Program. It could stop it while rearming at a moderate pace, if it really wanted to be tough on tax policy and tough on central bank policy. But, it seems pretty clear to me that the politicians of both the major parties do not consider a firm anti-inflationary fiscal policy a paying thing. In other words, it is their judgment—and I'm afraid they are right—that consumers are going to have to be hurt much more generally and much more severely than they've been hurt yet, before it is going to look like a good thing, politically, to accept responsibility for stopping the boom.

If the boom should still be running when the next presidential administration begins, it would probably be smarter for it to apply the brakes early in its term rather than run the risk of the boom collapsing too late for recovery before the next presidential campaign. Such action, however, would require courage so long as a greater number of our people are finding the inflationary prosperity pleasant than are finding it difficult and painful.

To recapitulate, I have predicted that disposable income will average something like ten billions higher in the second half of 1948 than in the first half. I have predicted that there will be a slight rise in the physical volume of industrial production; and that both wholesale and consumer prices will rise by about five points in their respective indexes. Five months from now, should you recall this forecast, you will know how good or bad it was.

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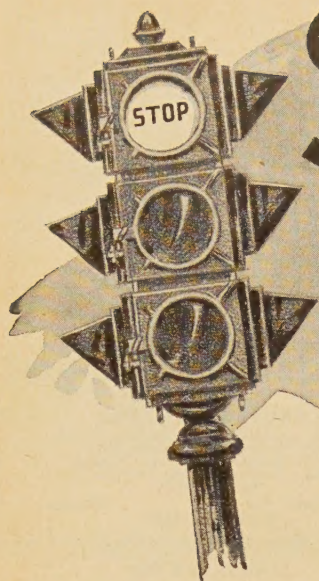
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STOP ME-IF—

The landlord was charging his tenant with assault and battery.

"Tell me," demanded the judge, fixing his stern gaze upon the defendant, "do you think you have a right to kick your landlord down the stairs?"

The tenant reached into a bulging pocket and brought forth his lease. Firmly grasping the top edge of the document, he made a flinging motion so that the accordion-pleats of the paper unfolded, revealing a printed and signed agreement of phenomenal length.

"Look at this lease, judge," the defendant pleaded. "Don't you agree with me that anything they have forgotten to forbid, I've got a perfect right to do?"

* * *

A good politician must also be an acrobat.

"How do you figure that?"

"Ever try standing on a fence, keeping your finger on the pulse of the nation, pointing with pride and looking to the future while keeping both ears to the ground?"

* * *

The man in the barber chair signalled with his finger. "Got another razor?" he whispered.

"Why?" asked the barber.

"I'd like to defend myself," said the customer.

* * *

Teacher: "What is the half of eight, Frank?"

Frank: "Which way, Teacher?"

Teacher: "What do you mean?"

Frank: "On top or sideways?"

Teacher: "What difference does it make?"

Frank: "Well, the top half of eight is zero, but the half of eight sideways is three."

* * *

First Shopper: "Why, you seem to be busy."

Second Shopper: "Yes, I'm trying to get something for my husband."

First Shopper: "Had any offers yet?"

* * *

A dime is a dollar with all the various taxes deducted.

Salesman: "You make a small deposit, then you pay no more for six months."

Lady at the Door: "Who told you about us?"

* * *

He didn't want to marry her for her money, but he didn't know how else to get it.

* * *

"Is Dan a confirmed bachelor?"

"He is now. He sent his picture to a Lonely Hearts Club and they sent it back with a note saying: 'We're not that lonely.'"

* * *

The lecturer was emphasizing the demoralizing effect of divorce.

"Love," he said, "is a quest; a proposal, a request; the giving of a daughter in marriage, a bequest; and marriage itself the conquest. But what is divorce?"

Voice from the audience: "The inquest."

* * *

Voter: "I wouldn't vote for you if you were St. Peter himself."

Candidate: "If I were St. Peter you couldn't vote for me. You would not be in my district."

* * *

Bobby: "Pa, what is a parking place?"

Pa: "An unfillable opening in an ending line of automobiles near an approachable fireplug."

* * *

Young Mother: "What makes you think our boy is going to be a politician?"

Young Father: "He says more things that sound well and mean nothing than any other human being I ever saw."

* * *

Boss: I'm surprised at you! Do you know what they do with boys who tell lies?"

Office Boy: "Yes, sir. When they get old enough the firm sends them out to sell salesmen."

* * *

"I can never forgive her," said the professor as he read the note left by his daughter explaining that she was eloping with a local boy.

"Why, dad, we did the same thing," replied the mother reprovingly.

"I know, dear; but you didn't spend 'elope' with two I's," sady replied the professor.

* * *

A storekeeper in a small town was greeted by a neighbor who consoled him on the loss of some merchandise during a fire.

"Did you lose much?" asked the friend.

"Not as much as I would have a few days ago," was the reply. "I'd just marked most of my stock down 25 per cent."

* * *

Husbands are awkward things to deal with; even keeping them in hot water will not make them tender.



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"He claimed his troubles were more than one man could bear — and put an ad in the paper."